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Malawi's Agricultural Export Strategy and Implications for Income Distribution

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MALAWI'S AGRICULTURAL EXPORT STRATEGY AND IMPLICATIONS FOR INCOME DISTRIBUTION.
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ABSTRACT

Malawi is widely regarded as one of the few examples of successful development in sub-Saharan Africa. Malawi's growth during the 1960's and 1970's was based almost entirely on an agricultural export strategy featuring tobacco, sugar, and tea. Given the current prominence of agricultural export strategies in the recommendations of multilateral aid agencies, it is worth analyzing the impact of one such strategy on income distribution in a country whose growth performance is generally well regarded. For Malawi, the specifics of that strategy had significant consequences for income distribution. While there is evidence that distributional equity in the country has declined, it is correctable without adversely affecting the export orientation of the country's development strategy.

Keywords: Income distribution, development, Malawi, agricultural trade.

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SUMMARY

Malawi's economic performance during the 1960's and 1970's was among the strongest in sub-Saharan Africa. Between 1965 and 1979, Malawi's real gross domestic product (GDP) increased 4.7 percent per annum, which is 1.7 percent in real per capita terms. Over the same period, real per capita investment in the private sector averaged 12.9 percent per annum. Malawi's growth performance was based almost entirely on an agricultural export strategy featuring tobacco, sugar, and tea which were produced largely on agricultural estates rather than on peasant holdings. Given the current prominence of agricultural export strategies in the recommendations of multilateral aid agencies, it is appropriate to investigate the impact of one such strategy on income distribution in a country whose performance is well regarded.

This report considered two types of evidence, indirect and direct, in order to assess trends in income distribution in Malawi. The indirect evidence consists of an analysis of structural change in the economy and various government policies which had the potential to mitigate the distributional inequity resulting from estate-based economic growth. The direct evidence is comprised of computations of income flows to households for 1968/69 and 1977, using a different methodology for each period.

The rapid growth of the agricultural estate sector was the principal change in the economic structure of Malawi's economy during the 1960's and 1970's. In 1964, estate production accounted for about 4 percent of GDP, while smallholder production, both subsistence and marketed, amounted to about 51 percent. By 1984, these figures were 7 and 32 percent, respectively. Additionally, export crops grown by the estate sector accounted for nearly all the growth in agricultural exports between 1968-79. Also, the estate sector and related industries accounted for half of all wage employment as of 1977. The importance of the estate sector and the way in which it grew were the critical factors in determining changes in distributional trends. The marketing board ADMARC, suppressed prices to peasant farmers, while selling the output on international markets at substantially higher prices. In real per capita terms, the net value of ADMARC purchases declined over the 1970's. During the same period, estate owners were able to sell directly on the same international markets. This differential treatment of agricultural producers limited real per capita income growth among the largest economic group, peasants.

The distributional effect of such a policy is obvious. The pricing policy depressed incomes in the smallholder sector. At the same time, preferential treatment provided to the estates increased that sector's demand for resources, especially labor, relative to the smallholder sector. Consequently, labor left peasant agriculture and moved into estate employment. This movement had the potential to improve distributional equity in the long run had remuneration in the estate sector been higher than the implicit wage in the smallholder sector and had the estate sector been able to absorb sufficient numbers of peasants. However, wages in the estate sector were lower than those in peasant agriculture and labor absorption rates were not maintained.

This unusual situation of transferring labor to a comparatively low-wage sector was the result of the land pressure faced by smallholders. Those who migrated from the smallholder sector to the estate sector, either for part-year or full-year employment, were those without sufficient land to

operate a viable farm. This situation was a consequence of the distribution of land within the peasant sector. Although generally regarded as moderately equitable, land distribution still allowed for differences which, in a poor, land-scarce economy, were of vital importance.

The other piece of indirect evidence examined in this report concerns the government's attempts to ameliorate the distributional consequences of economic growth. There were three areas of government activity that provided opportunities to ameliorate increasing income inequity: health care, education, and rural development. The pattern of expenditures on health care and education was not sufficient to correct the negative distributional trend. Expenditures were often on facilities that served middle and upper income groups; for example, urban hospitals and higher education. Although these facilities may have been necessary, they did not benefit the rural poor.

Unlike health care and education, expenditures on rural development projects were very generous. However, the results were not on a scale commensurate with project expenditures. The projects were designed to increase the level of peasant agricultural output in selected areas of the country. For a variety of reasons, the forecast increase in crop production was not met. From a distributional point of view, the important result is that income streams in the project areas did not increase as expected.

In light of the nature of economic change in Malawi during the 1970's, it is not surprising that the direct evidence indicated a decline in distributional equity. Comparing the distributional patterns generated for the two time periods revealed an increase in the value of the Gini coefficient from 0.491 in 1968/69 to 0.530 in 1977, which is a significant decline in equity. While this indicated a deterioration in distributional equity, it is probably not conclusive evidence. The factor that contributed most to increased inequity and which was not directly included in the data set was the changing circumstances in the peasant sector. Between 1968/69 and 1977, the combination of land pressure and agricultural pricing policy had a major impact on relative income streams.

When the traditional distributional evidence is viewed in the context of structural change in Malawi, along with evidence on the government's attempts to implement redistributive programs, it becomes clear that the government did not protect the majority of the population from the adverse impact of the development strategy on the distribution of income.

Malawi's Agricultural Export Strategy and Implications for Income Distribution

Robert E. Christiansen
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INTRODUCTION

Malawi's importance lies not in the size of its economy, its mineral wealth, or political disposition, but rather as a development example which many view as enviable and replicable. Between 1965 and 1979, Malawi's real gross domestic product (GDP) increased 4.7 percent per annum, which is 1.7 percent in real per capita terms. Over the same period, real per capita investment in the private sector averaged 12.9 percent per annum. Malawi's growth performance was based almost entirely on an agricultural export strategy featuring tobacco, sugar, and tea, which were produced largely on agricultural estates rather than on peasant holdings.

Although Malawi's economic performance is well documented, little is known about the distributional changes that have occurred since independence. For an analysis of income distribution to be meaningful, especially in circumstances where data are in short supply, distributional data should be viewed in the wider context of economic change and government policy. For this reason, the first part of this paper is devoted to an account of the structural change that occurred in Malawi during the late 1960's and 1970's.

There are two reasons for stressing historical development. First, the reader is better able to appreciate the present structure of Malawi's economy and distribution of income if familiar with the political and economic forces that gave rise to it. Second, and closely related to the first, is the repetitive aspect of certain events in the colonial and post-independence periods; specifically, attempts to establish a viable agricultural estate sector. The experience derived from the first attempt provides a valuable insight into the current effort by the government.

COLONIAL AND POST-INDEPENDENCE ECONOMIC STRUCTURE

The colonial economy in Malawi was divided into three subeconomies, the plantations, peasant cash cropping, and the labor reserve economy. The plantations were encouraged by colonial administrators in an attempt to make the Protectorate financially self-sufficient. Preferential treatment was accorded plantation owners in a number of areas, including the exclusive authority to grow certain crops. Peasant cash cropping was encouraged as a

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source of food for the plantations, missions, and administrative centers. The labor reserve economy, by which is meant the migration of labor to comparatively well-paid employment in South Africa, Southern Rhodesia, and Northern Rhodesia, was a result of the restrictions imposed on labor in Malawi.

The more export-oriented strategy pursued after independence, with its emphasis on large-scale, rather than peasant, agriculture, is the single most important factor in explaining the trend in income distribution in Malawi.

The Plantation Economy 1/

The plantation economy was the first subeconomy to develop under colonial administration. It started in the Shire Highlands, an area of good agricultural land that is relatively accessible to the navigable Zambezi-Shire transport route. European land speculators procured large tracts of land in the 1880's and established a substantial plantation sector during the first 10 years of colonial rule. By the turn of the century, the Shire Highlands plantations (based on coffee) had a value of output greater than the settler farms of Kenya or Southern Rhodesia. The colonial administration encouraged plantation agriculture by facilitating transfer of land to Europeans and forcing Africans to seek wage employment by imposing a hut tax.

The strong growth of the plantation sector ended in 1902 as a result of a collapse in coffee prices caused by expanded Brazilian production and increasing production problems in Nyasaland, the colonial name for Malawi. With the failure of coffee, the plantation sector turned to cotton, tobacco and, in the limited areas where the climate was suitable, tea. The sector grew slowly to the end of the 1920's, but never prospered. The high cost of transport to the coast was the chief problem for the plantations. Unlike the Rhodesias, Nyasaland had no mining sector with which to share the cost of constructing a railway. When a rail link was finally completed, with the building of the Zambezi bridge in 1935, it constituted an unnecessarily costly route chosen for reasons of wider imperial policy without regard to the interests of Nyasaland (59). 2/ Further, problems on most plantations included under-capitalization, lack of technical skills, and the short-term perspective of most European planters. 3/

1/ In writing this historical section, the authors are indebted to John McCracken and Megan Vaughn. Of particular value were two lectures given by Professor McCracken to a Chancellor College class in rural development in February 1981.

2/ An account of the pressures which led to the choice of the Beira route and of the damage caused to Nyasaland's development prospects by high transport costs and substantial loan repayments is given by Vail (59). Underlined numbers in parentheses identify literature listed in the bibliography at the end of the report.

3/ McCracken quotes a 1906 dispatch to the Colonial Office from S. Simpson, an expert on cotton growing with a year's experience in Nyasaland (49, p. 3). "Coffee prices fell, crops failed, when suddenly tempted by the high price of cotton everyone rushed into big acreage under this product. It was a general belief that no experience was essential to its cultivation and as to the most suitable varieties for the different situations, that point does not appear to have been considered at all. All and sundry received large grants for putting in cotton and no discrimination as to the capabilities of the applicants appears to have been practiced. In a country like this at least 75 percent of the planters have no experience of agricultural work whatever, and would absolutely starve in most countries."

In this unpromising commercial environment, plantation survival required the use of the cheapest possible labor. The first instrument for obtaining labor, the hut tax, did not entirely meet the needs of the plantations. Most Africans lived on unalienated land (Crown Land), that is, land that had not been sold or leased for commercial purposes. In addition to estate work, adult men had the option of meeting tax obligations by growing cash crops or by migrating to neighboring countries. Settlers' interests had only limited success in persuading the administration to close the cash cropping and migration options. A solution to the labor problem was finally achieved through settler control of land. A typical plantation consisted of large tracts of land, only a small proportion of which was actually cultivated at one time. Labor was provided by peasant tenants who were mainly Lomwe people who had migrated to Nyasaland from Mozambique to avoid a more oppressive Portuguese colonialism. The predominant form of tenancy in Malawi, thangata, was a quasi-feudal arrangement under which peasants had to supply labor to the plantation to use a plot of land. The law regulating thangata permitted a variety of arrangements. In some cases, labor had to be provided free, while in other cases, it was paid. Regardless of compensation, however, tenants were forced to supply labor when the plantation owners required it. In extreme cases, labor was exacted from women as well. A feudal aspect of thangata was the way in which it tied the peasants to the land; adult males from households subject to thangata risked the eviction of their families if they migrated in search of more remunerative employment. 4/

Collapsing cotton and tobacco prices in the early 1930's dealt the plantation sector a severe blow. Many of the tobacco estates outside the Shire Highlands were abandoned and were not redeveloped until the tobacco boom of the 1970's. From the early 1930's to the mid-1960's, the plantation sector was broadly static in terms of output and technology. The tea industry was a partial exception to this because production grew 4 percent per annum in the 1940's and 1950's. The continuing reliance on labor-intensive methods was the result of exceptionally low wages. As a result of these wages, the plantation sector created a poor peasant society. Furthermore, peasant production underpinned the viability of the plantations. The supply of labor at wages below the level necessary to meet family subsistence needs was made possible by family food production on either tenanted or unalienated land. This food production was mainly carried out by women who often had insufficient labor and/or land to practice a satisfactory fallow rotation.

The Peasant Cash-Cropping Economy

The coming of colonial rule provided a stimulus for African cash cropping because the administrative officials, religious missions, and plantations required food. The dependence of the plantation sector on food supplies from the peasant sector represents a crucial link that has endured to the present. 5/ Although production of food surpluses by the peasant sector was of great value to the plantations, development of peasant production of

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4/ An analysis of the impact of thangata on some communities can be found in (18).

5/ The estate sector grows some food crops for consumption by its workers, but overall is always an important food purchaser. There are two reasons for the food deficit of the estate sector: (i) it is a rational management strategy to concentrate supervision and labor on the higher value crop and (ii) theft by workers is difficult to control in the case of food, but is unlikely with tea or tobacco.

export crops held potential for conflict with plantation interests. This conflict of interests was not only over the land and labor necessary to produce the export crops, but also for the support of a colonial administration anxious for some form of economic development.

In the first decade of colonial rule, the administration was unambiguous in its support of plantation interests. However, with the failure of coffee production in 1902, the subsequent debacle with cotton and, finally, with the collapse of tobacco production in the early 1930's, the inefficiency of much of the plantation sector became increasingly clear. As a result, in the first four decades of this century, administration policy moved from cautious sanctioning of peasant production of export crops in areas where there was no sharp competition for resources with the plantations, to one of intervention to promote widespread peasant production. In fact, by the late 1920's, peasant export production had become the leading factor in achieving economic development.

In 1928, 9[illegible] percent of the cotton crop was produced by peasants as was 63 percent of the tobacco crop in 1929 (48, p. 22). Particularly important during this period was the peasant dark-fired tobacco industry, which developed in the 1920's, mainly in the Central Region, away from the concentration of plantations in the Shire Highlands. Dark-fired tobacco was introduced by estates in the Southern Region using the visiting tenant system, a scheme whereby the profit to the estate was primarily derived from its position as a monopsonistic purchaser of the crop. In 1926, the government entered the same business by creating the Native Tobacco Board with a legal monopsony over all tobacco grown on unalienated land. Production handled by the Native Tobacco Board developed rapidly. By 1929, there were 47,000 peasant tobacco-growing units on unalienated land (12). Dark-fired tobacco is a demanding crop to grow and, as it offers little scope for mechanization, is ideally suited to peasant production. Due to this early start and continuity in production, Malawi developed a dominant position in world trade in dark-fired tobacco. 6/ Handling dark-fired tobacco had always been profitable, and soon allowed the Native Tobacco Board to make a significant contribution to government revenues (52).

None of the other peasant-grown crops achieved success comparable to that of tobacco. Given the low commodity prices of the 1930's, there were no other crops sufficiently profitable to support the level of marketing infrastructure and extension/research services provided by the Native Tobacco Board. In 1934, the administration launched a campaign to increase cash crop production. But again, low prices, minimal extension/research support, and many areas the inaccessability of to Native Tobacco Board purchasing agents meant the incentives did not exist for widespread compliance with the government's wishes (48, p. 26). The 1936 decision to lift the ban on the recruitment of labor for South African mines can be interpreted as an admission of failure of the policy designed to accelerate the growth of cash crop production.

The early 1950's marked a turning point for peasant cash cropping. One reason was that the Nyasaland government was shaken by a severe famine in 1949, during which maize was imported and much of the government machinery was diverted to antifamine measures. African sources describe the 1949 famine as

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6/ In recent years, Malawi has been the world's major exporter of dark-fired tobacco and second only to the United States as a producer.

unprecedented in its scope and severity; this view is corroborated by authoritative sources within the colonial administration (19, p. 240). As a result, in the 1950's, the priority of government policy was directed toward measures to assure food security, since this was seen as a precondition for further development of both peasant- and plantation-produced exports. A measure which proved startlingly effective was a 140-percent increase, effective in 1950, in the price paid by the marketing board to producers of maize.

A second important influence on agricultural development was the generally favorable terms of trade for primary commodities in the 1950's. Higher commodity prices permitted the estate tea industry to continue to grow despite the greatly increased labor costs implicit in the hike in food prices, although estate tobacco production drifted downward. 7/ Notable growth occurred in peasant production of rice, pulses, groundnuts, and, from the late 1950's, cotton.

Third, in the 1950's, annual government expenditure on agriculture grew from an average of 200,000 kwacha (K200,000) over 1946-49 to an average of K1.1 million for 1956-59, representing, 5.9 percent and 8.9 percent of total government expenditures. As is the case today, the Department of Agriculture concerned itself almost exclusively with the peasant sector. It is difficult to assess the impact of this government activity on production. Much of the expenditure on agriculture financed an ill-conceived and ultimately self-defeating program of soil conservation, the coercive aspects of which became a focal point in African opposition to European rule.

The Labor Reserve Economy

The last of three subeconomies characterizing the colonial era was the result of large-scale labor migration to neighboring countries. Labor mobility was so extensive that Nyasaland was regarded as a labor reserve economy especially servicing Southern Rhodesia and South Africa. For adult men, the options for satisfying the tax obligation imposed by colonial rule varied from area to area. Perhaps the least fortunate group were the thangata tenants, captured through local land scarcity on the plantations. Most peasant cash croppers were more fortunate, especially those with sufficient good land close to markets. However, cash cropping developed slowly and tended to be confined to accessible areas in the Southern and Central Regions. Thus, for a high proportion of men in areas away from the center of the colonial economy, the major option was wage labor away from home. In the early colonial period, the work available in Nyasaland was mainly production and porterage, both poorly paid.

The alternative for wage labor was in mining and in European agriculture in Rhodesia and South Africa. Although this work involved prolonged absence, often in conditions of great deprivation, labor was much better paid. In the late 1890's, significant numbers of men responded to this external demand for labor, so that by 1900, plantation owners petitioned for some regulation of migration (5, ch. 1). The Nyasaland Government partly met these demands in 1901 with the introduction of an additional tax for Africans from plantation districts who did not work for a European employer and also by attempting to

7/ In the 1970's, about 50 percent of current input costs in tea production were labor costs. Given the lower fertilizer use in the 1950's, the share of labor costs was probably somewhat higher.

Table 1--Malawians abroad

Year	Percentage of de facto population	Year	Percentage of de facto population
	Percent		Percent
1903	1.1	1948	5.6
1911	2.5	1958	6.2
1924	2.5	1972	10.3
1938	6.8		

Source: (5, app. B and C).

regulate and direct labor recruitment agencies. 8/ Over the next four decades, government policy on migration vacillated under contrary pressures: plantation and missionary influences on one side, and the increase in government revenues from migrants' remittances on the other. Government policy was of limited relevance, however, as independent migration was difficult to control and the authorities in the recipient territories were rarely cooperative.

The growing importance of labor migration can be recognized from table 1. 9/ Labor migration peaked in the early 1970's, however, and the 1977 census shows that large numbers of migrants returned to Malawi during a period when opportunities for new migration were severely constrained. 10/ Two factors are chiefly responsible for this change. The first of these was the falling demand for migrant labor in neighboring countries due to such factors as poor economic performance in Zambia, civil war in Zimbabwe, and technical changes allied to changes in employment policy in South Africa. Second, wage employment in Malawi grew rapidly in the 1970's with the bulk of the new jobs located in estate agriculture. As a result, in the 1970's, the rural labor market was tight; in some areas, estates had to pay well in excess of the minimum wage to obtain labor. Thus, concern over labor supply was likely a factor in turning official policy firmly against migration in 1974. 11/

8/ The 1901 Native Hut Tax Ordinance provided for a tax of 4 shillings, in addition to the basic tax of 6 shillings, for Africans from "settled districts" who did not work for Europeans for at least 1 month per year. This measure also discriminated against emerging African capitalist farmers who represented a further source of competition for labor (5, ch. 1).

9/ The oft-quoted figure for 1966 of 6.3 percent of the population being abroad, estimated from a question in the 1966 census, is not reported in table 1. Boeder has shown convincingly that this figure is grossly underestimated (5, ch. 6). Boeder's own figures for 1972 are derived from sources in recipient countries.

10/ See (8) for a detailed account of migration and its curtailment during the 1970's.

11/ For 1970-80, nominal earnings per worker in agriculture increased at an average annual rate of 3.9 percent and the low-income retail price index increased at an average annual rate of 9.8 percent (23, 49). Despite the real decrease, any rise in nominal earnings was of concern to newly established estate companies, most of which had difficulty in establishing profitability in the face of substantial loan charges.

The Federal Period, 1953-63

In 1953, the British government brought Nyasaland into a political and economic union with Northern and Southern Rhodesia under the name of the Federation of Rhodesia and Nyasaland. Both before and during the Federal period, almost all African political opinion in Nyasaland was opposed to the Federation. From the African point of view, the crucial objection was that the Federation tied political development in Nyasaland to that in Southern Rhodesia, where the European presence was much stronger. Since the Federation implied continued European dominance of the bureaucracy, larger scale commerce, and manufacturing as well as plantation agriculture, it represented a massive obstacle to the political and economic aspirations of Nyasaland Africans. Given that the Federation was primarily a political device for maintaining the status quo, it is not surprising that modifications in the features of the colonial economy which resulted from the Federation were rather minor. One benefit of membership in the Federation was the provision of safeguards for Nyasaland migrants in the Rhodesias. Second, the Nyasaland government benefited from a federal subsidy which permitted an expansion of government services well beyond the territory's capacity to finance them. The supply of these expanded government services was, however, highly skewed toward the small European population.

The negative aspect of membership included trade diversion effects which exceeded any benefits of trade creation. Also, the Federation operated a laissez-faire industrial location policy, whereby most industrial development took place in Southern Rhodesia. The development of central government services was similarly concentrated, so that at independence Malawi lacked a central bank or an economic planning apparatus.

Despite the negative aspects of membership in the Federation, Nyasaland experienced economic growth during the Federal period. This growth, however, was primarily due to high commodity prices. Even this growth faded with the deepening political crisis which ultimately ended in the dissolution of the Federation, and the granting of self-government. The economic growth of the 1950's was probably accompanied by a small, but fairly general, increase in living standards. Real wages increased both in Nyasaland and in the neighboring economies where Nyasalanders were employed. The increasing volume of peasant cash crop production also brought increased incomes. At the same time, the demands imposed on individual Africans by the colonial economy decreased with the relative erosion of the poll tax obligations. The abolition of thangata brought to some communities in the most densely settled areas at least a modicum of relief from land shortage and the consequent pressures to engage in wage employment.

Structural Change and Trends in Output and Employment 12/

The structure of Malawi's economy has changed dramatically since independence (table 2). Although the economy continues to be predominantly agrarian, there have been important changes within agriculture. The most important of these for income distribution has been the expansion of the sugar and tobacco estate industries and the accompanying relative decline of the peasant farming sector.

12/ This section is intended to provide the reader with only an overview of recent events in Malawi. A more complete account of the structural change Malawi has experienced is available in (10, 20, 23).

Table 2--Composition of gross domestic product (factor cost) for selected years

Sector	1969	1975	1980	1985
		Percent		
Agriculture	50.8	39.2	37.3	37.7
Manufacturing (incl. mining plus quarrying)	11.8	12.1	11.7	12.5
Building and construction	5.1	4.8	5.4	4.3
Electricity, water, and sanitation	1.1	1.6	1.8	2.0
Distribution	9.8	15.1	14.4	13.1
Transport and communication	4.6	7.2	6.8	5.7
Financial and professional services	3.1	5.0	6.8	6.4
Ownership of dwellings	3.0	4.0	4.2	4.4
Government	10.9	8.8	10.4	12.2
Community, social, and personal services	1.0	4.2	3.8	4.4
Unallocable	-2.0	-1.8	-2.7	-2.6

Notes: GDP figures include nonmonetary production estimates.
Sources: (38, 45).

At independence, peasant production dominated the agricultural economy. The ratio of the value of estate production to the value of officially marketed peasant production at independence was near its minimum value, 0.79. Since then, however, the ratio has increased and in 1980 was 2.10. 13/ The strength and consistency of estate growth relative to that of peasant farming can be seen in table 3 which illustrates the average annual growth rates of output for estate and peasant crops. These growth rates were computed by fitting an exponential trend line to observed values. Data are divided into three periods, 1965-72, 1972-79, and 1979-85, which correspond to the early stages of estate expansion, the era of rapid estate growth, and the period characterized by World Bank involvement and major shifts in agricultural policy, respectively. These data effectively demonstrate the rapid growth of output versus the stagnation of peasant output.

Since the late 1960's, two important changes have taken place in the official marketing of maize. First, an important component of the rural development program, which has been funded by donor agencies such as the World Bank, was the expansion of both the geographical coverage and density of the official marketing system. The second factor stems from the dependence of Malawi's urban and large-farm sectors on food supplies from the peasant sector. The withdrawal of labor from the peasant sector, coupled with increasing land scarcity and modest technical progress, has hampered the peasant sector's

13/ Since this ratio uses only officially marketed peasant production, it understates the economic importance of the peasant farmer. During the post-colonial period, the geographical coverage of, and therefore purchases by, the marketing board (ADMARC) increased significantly. This makes the initial dominance of peasant production that much greater and the growth of estates even more impressive.

Table 3--Average annual growth rates for volume of agricultural output

Period	Estate production			Marketing board purchases of peasant production				
	Tobacco	Tea	Sugar	Tobacco	Groundnuts	Cotton	Rice	Maize
	Percent							
1965-72	21.3	5.5	31.4	-1.0	2.7	7.7	-24.3	NA
1972-79	15.1	6.7	16.0	6.2	-11.5	2.7	4.7	7.8
1979-85	6.4	3.6	3.4	3.3	-13.7	4.6	-12.3	23.2

NA = Not available.
Sources: (45, app. 9; 45).

ability to supply the greatly increased marketed surpluses required. Thus, in fulfilling its obligation to supply food to the urban and estate sectors, ADMARC sharply increased the price of maize relative to other peasant-grown cash crops. This has induced a substitution between marketing channels. Thus, over the 1970's, an increasing share of the food surpluses of the peasant sector was captured by the official marketing network.

Even tea production, well established by 1960, displayed solid growth. The high R^2 value shows that estate growth was consistent over both periods. In sharp contrast to this performance, peasant output displays no significant growth trend. 14/ Table 4 shows that the same pattern was present for the value of output when calculated at export/import parity prices.

Crucially important to understanding post-colonial structural change in Malawi and the implications for income distribution is the effect of the estate-oriented strategy on labor markets in Malawi. The labor requirements of the estate agriculture sector, which expanded during the 1970's, were high. The expansion was based primarily on tobacco, an inherently labor-intensive crop, and, to a lesser degree, on sugar. Although sugar production is more amenable to capital intensification than tobacco, given the low cost of labor in Malawi in the 1970's, sugar production was also labor-intensive. The Government of Malawi actively encouraged the growth of estates in a number of ways. The most important of these was the suppression of the implicit rate of return to peasant labor. This suppression helped the estates by providing economic incentives for labor in peasant agriculture to seek part- or full-year employment with the estates. The prices paid to the peasant farmer for output were, on average, significantly below export parity prices. Evidence of this policy is found through an examination of the real value of per capita ADMARC purchases from the peasant sector. The lack of a trend in the real value of per capita payments to labor employed on own-holdings occurs over a period in which world prices for many crops were increasing in real terms (table 4).

14/ Only peasant maize output appears to rival the growth of estate output, but even this is illusory. The increases for maize are the result of more geographically comprehensive purchasing of peasant output by the marketing board (ADMARC).

Table 4--Real value of per capita ADMARC purchases

Year	All produce including maize	All produce, excluding maize
	Kwacha	
1964	9.5	8.3
1965	16.1	15.2
1966	16.7	14.5
1967	20.4	15.9
1968	9.6	6.3
1969	11.9	9.8
1970	11.3	11.0
1971	15.0	13.8
1972	16.7	14.5
1973	13.0	10.9
1974	13.8	11.5
1975	11.4	10.5
1976	15.1	12.8
1977	15.2	12.3
1978	16.4	12.9
1979	13.2	11.5
1980	11.6	9.1
	Percent	
Annual growth rate	-.2	-.5

Source: (23).

The consequence of a decrease in the real implicit wage earned by peasant farmers, when more remunerative employment opportunities existed (wage employment on the estates), was a movement of labor out of peasant agriculture to the more attractive available alternative. 15/ Table 5 presents annual average growth rates for individuals working on their own holdings (keep in mind that Malawi's population grew at an average annual rate of 2.9 percent between 1966 and 1977). 16/ Table 6 shows that the average annual growth rate of economically active males was 2.7 percent and, for females, 2.3 percent. The total number of economically active individuals in the economy grew at an average annual rate of 2.5 percent; yet the average annual growth of full-year own-holding employment for both sexes was only 0.9 percent.

15/ A more detailed account of the movement of labor out of own-holding agriculture can be found in (9).

16/ This includes the impact of returning international migrants on population growth. The government estimates that the rate of natural increase was 2.6 percent (39).

Table 5--Individuals working on their own holdings

Employment group	1966		1977		Average annual growth rates		
	Females	Males	Females	Males	Females	Males	Total
	Thousands				Percent		
Full-year (10-12 months)	1,178.5	716.0	1,423.6	631.6	2.1	-1.4	0.9
Part-year (1-9 months)	9.3	103.7	84.6	266.2	27.8	11.0	11.9
Total	1,187.8	819.7	1,508.2	897.8	2.7	1.0	2.0

Note: This table refers to the estimated number of "economically active" individuals working on their own holdings and does not include employees on peasant farms.

Sources: (34, tables 21-22); (39, tables 2-3).

Table 6--Economically active individuals

Sex	1966	1977	Average annual growth rate
	Number		Percent
Males	942,092	1,266,175	2.72
Females	1,198,814	1,546,408	2.34
Total	2,140,906	2,812,583	2.51

Source: (23, p. 362).

The high growth rate for total part-year employment (11.9 percent) suggests that the labor force was reducing its commitment to, but generally not abandoning, own-holding employment. (While the own-holding labor force has grown in absolute terms, it has become more female and more part-time and absorbs a smaller proportion of the total labor time.) The decomposition of these growth rates by sex shows that the greatest movement is by males; male full-year employment in peasant agriculture declined absolutely. Full-year, own-holding employment by females rose, but at a rate well below the estimated rate of natural increase of economically active females. At the same time, part-year female participation in own-holding employment grew rapidly as a result of the growth of female involvement in wage employment, which is documented below.

The figures for total own-holding employment (both full-year and part-year) summarize what happened to the commitment of the labor force to peasant

agriculture. Female participation overall increased at a rate compatible with the estimated rate of natural increase during this period. Male own-holding employment increased, but at a rate significantly below rates of natural increase. The combined effect of changes in male and female participation in own-holding employment (2 percent over this period) was below the population's rate of natural increase (2.6 percent) and even further below the migration-supplemented rate of growth (2.9 percent) for the entire population.

It is necessary to look at changes in wage employment to complete the picture of labor market transformation in Malawi. A startling finding is that female part-year employment, rose, on average, 22.2 percent per annum in 1966-77 (table 7). This corresponds to the very large increase in female part-year employment on own-holdings. Growth rates for both sexes in both categories, full- and part-year, are in excess of 10 percent per annum. The average rate of increase in agricultural wage employment in 1968-72 was 9.6 percent and 13 percent for 1972-77 (table 8). The sector experiencing the largest consistent growth is the number of wage employees in agriculture. Although other sectors (manufacturing, wholesale and retail trade, and construction) displayed more

Table 7--Annual average rates of change of wage and salary employment by sex and duration of employment, 1966-77

Duration	Average annual growth rates		
	Males	Females	Both sexes
	Percent		
Full-year (10-12 months)	10.5	12.0	10.7
Part-year (1-9 months)	9.0	22.2	10.8
Total	9.8	17.8	10.8

Sources: (34, tables 21 and 22; 22, tables 2 and 3).

Table 8--Growth in number of paid employees

Sector	Average annual growth rates		
	1968-72	1972-76	1977-80
	Percent per year		
All industries	9.0	8.6	5.4
Agriculture, forestry, and fishing	9.6	13.0	5.7
Manufacturing	7.8	11.6	6.0
Construction	4.1	3.8	16.8
Wholesale and retail trade, hotels and restaurants	14.0	6.8	-7.9
Transport, storage, and communications	4.9	7.3	-.4
Community, social, and personal services	9.7	3.4	2.6
Other	15.8	13.6	17.6

Sources: (37, 45, 21, p. 31).

rapid growth during parts of this period, agriculture had the highest average growth of wage employment. 17/ Thus, the movement of labor within Malawi was clearly from peasant own-holding employment to wage employment in the estate sector.

Distributional Goals

Before analyzing the distributional data, it is worth reviewing the government's publicly stated position on distributional goals. The principal documents setting forth the government's development goals, and the only two that refer to distributional issues, are the Statement of Development Policies, 1971-1980 (DEVPOL) (46) and The National Rural Development Programme: Policies, Strategies, and General Features (28). DEVPOL emphasized the development of peasant agriculture as the government's primary goal:

> "The vast majority of Malawi's population depends for its livelihood on peasant farming.... It is in this sector that the national development effort is being, and must continue to be, concentrated.
>
> This choice of strategy...is dictated not only by the peasant pattern of economic activities among the population but also by the nature and distribution of Malawi's economic resources. The factors of production with which Malawi is relatively well endowed are land and labor; the factors which are in short supply are capital and high level skills. It is therefore no more than common sense to make the maximum use of land and labor and economize on the use of capital and technical skills." (46, p. 1)

Apart from the distributional goals implicit here, DEVPOL has little to say about income distribution. The only other context in which DEVPOL addresses distributional issues is a reference to urban and rural wage differentials. DEVPOL lists three reasons for minimizing these differences:

> "It would be contrary to this broad policy (i.e., income policy) to create a privileged position for urban wage earners by artificially inflating their incomes, since this would be reflected in increased prices of manufactured goods and cause a reduction in real incomes of farmers. Not only would this depress the living standards of the mass of the population but would also act as a disincentive to increased effort in the agricultural sector and hence undermine the basic development strategy. Furthermore, there is no lack of empirical evidence from other African countries to the effect that rising wage rates tend to reduce employment, by the adoption of more capital intensive methods of production. High differentials between urban and rural incomes also promote the flow of job seekers into town, causing serious social and political problems." (46, p. 2)

The National Rural Development Programme (NRDP) was a response to Malawi's experience with rural development programs prior to the mid-1970's and constitutes an umbrella program for the country's rural development efforts.

17/ On the basis of these data, we argue that the significant movement of labor within Malawi was from peasant own-holding, nonwage employment to wage employment in the estate sector.

The design of NRDP recognizes the poor performance of peasant agriculture relative to the estates.

> "Since 1973, the estate sub-sector has been the leader in growth, while the smallholder sub-sector has lagged behind. Therefore, although the government will continue to support the estate sub-sector development, greater emphasis will be given to increasing production incomes of smallholders." (28, p. 1)

The fact that this statement was made 7 years after DEVPOL's unambiguous commitment to peasant agriculture suggests some gap between statements and accomplishments. This gap appears even larger in light of the rapid growth of the estate sector. NRDP reiterates that:

> "Rural development is a primary social and economic objective of the government. Beyond the aim of raising agricultural productivity, it is also conceived of as an effective vehicle for government's objective of redistributing incomes in favor of the rural poor." (28, p. 1)

Although these documents express some concern about distributional issues, they fail to prepare specific remedies to redress the impact of inequitable growth. In light of education and health policies ultimately implemented, these statements were apparently made to satisfy an external constituency and not to achieve meaningful redistributional goals.

In summary, Malawi's post-independence development has been characterized by rapid growth of large-scale agricultural production units. While promoting the development of estates, the government also ostensibly sought to promote peasant agriculture. The results of this effort were, at best, disappointing since output of peasant crops stagnated. The government's motivation and justification for the development strategy are less important than the results. The impact of the strategy on the distribution of income rests primarily on an analysis of the forces that led to a transfer of labor from the peasant sector to the estates. Secondarily, some consideration of the effects of certain government expenditure programs needs to be made.

Based solely on the way in which transfer between the estate and peasant sectors occurred, we conclude that Malawi's development was characterized by a growth pattern that increased distributional inequity. The pricing policy pursued by the marketing board reduced the profitability of peasant agriculture. That situation was exacerbated by increasing land pressure. The decision confronting the peasant labor force was whether to remain in peasant agriculture or seek wage employment in the estate or related industries. For those who remained in the peasant sector, the prospects were gloomy; the combination of further subdivision of own-holding plots due to land pressure and unfavorable prices due to ADMARC's taxation scheme seriously impaired the mobility of peasant agriculture. As a result, labor drastically reduced its commitment to smallholder agriculture and moved into wage employment on the estates. Because wages on estates were lower than in own-holding peasant agriculture, the welfare levels of those compelled to move were reduced. There was some potential, however, for government to offset the distributional consequences of the labor transfer through education, rural development, and health care programs. Our analysis of those efforts indicates that they failed to do so.

DISTRIBUTION OF INCOME IN MALAWI

The most important problem encountered in a study of income distribution in Malawi was the lack of a suitable data base. Although there are considerable and reliable data sets available for Malawi compared with many other African countries, none of them is specifically oriented toward an analysis of distributional questions. In order to overcome this obstacle, we have manipulated the data somewhat more than would otherwise be the case. As a result, what follows is largely an explanation of methodology. 18/ Estimates of income distribution were made for both 1968/69 and 1977, 2 years for which data are the best. We separately estimate income distribution for each of these years and begin with a discussion of data sources. Following that, we explain the methodology employed and present the distribution for the two periods. Finally, we use these two observations to evaluate the trends in income distribution during the post-independence period.

Distribution of Income, 1968/69

The next step in our analysis of distributional trends, having completed the overview of economic change in the post-independence period, is to examine the direct evidence. This evidence consists of data for 1968/69 and 1977. Since the data available for the two periods are different, and therefore the methodologies employed also differ, we carefully describe each. Despite the different methods of analysis employed for the two periods, we are able to make comparisons between them.

Data Sources

The first of the two main data sources, the National Sample Survey of Agriculture for 1968/69 (NSSA), was used to assess the position of lower income rural households; that is, peasants residing on customary land. NSSA focuses on agricultural holdings, containing data on the holding itself (size of plot, crops, etc.), as well as on the family that operates/supervises the holding. This focus on the operating/supervising family gives rise to the major shortcoming of NSSA: virtual exclusion of individuals and/or families who work on the holding, but who are not responsible for its operation or supervision. Although NSSA does inquire about the presence of such laborers, no questions concerning the consumption patterns or income levels of these individuals were asked. These wage laborers are people who were partially disenfranchised from access to agricultural holdings. Although these people are not necessarily landless, they likely had access to only relatively small holdings. This disadvantage forced them to seek wage employment on other holdings and they were therefore among the poorer members of the community. In 1977, their numbers were not insignificant; one source (22) suggests that there were nearly 100,000 families or individuals working as permanent

18/ The description presented here of the estimation of income distribution for 1966 and 1977 is a condensed version of our earlier work (21, 22).

employees on intermediate-sized estates or smallholder farms. 19/ The paucity of information on these individuals poses a problem for our study of income distribution. 20/

Income equity clearly is overstated to the extent that the income difference between operators/supervisors and employees exists, since we were forced to assign an income stream to the latter group which was comparable to that assigned to operators/supervisors.

Another difficulty with NSSA is that it does not stratify households on the basis of total income. Information on net farm cash income (from cash cropping) is available, as are data on wage income. However, the third component of total income, the value of subsistence production, is not available. While there is a table in NSSA (35, R6.12) that stratifies households on the basis of current cash income (the sum of net farm cash income and wage income), it is not satisfactory. Current cash income and the value of a household's subsistence production are not necessarily highly correlated. The consequences of this stratification problem are difficult to assess because we do not know the degree of correlation between the value of subsistence production and sources of cash income. However, rather than ignore the value of subsistence production in the household's income picture, we estimated the income flows from subsistence production and other subsistence sources as part of the household income computation. An explanation of this methodology is presented in the next section.

Estimation of Per Capita Household Income for Peasant Households

The problem with the income data found in NSSA is its failure to assign an income value to household subsistence production. To remedy this deficiency, we compiled available information on total cash income and average household size (table 9).

The summary income figure is "total net cash income" which is the sum of "net farm cash income," "other earned cash income," and "cash transfers from abroad and within Malawi." The source of "other earned cash income" is most likely the result of wage employment on other holdings. This is common among peasants whose own-holding is too small to yield sufficient supplies of food crops. Cash transfers constitute income from relatives in South Africa or Zimbabwe and possibly in domestic urban centers. It is noteworthy that there does not appear to be any correlation between total cash income and transfers from abroad. In other words, it cannot be demonstrated that rich or poor peasants, exclusively, send family members abroad. Also provided in the table are the numbers of households in each cash income category and the average sizes of the households. While the use of income and household size averages involves a loss of detail, it is unavoidable.

19/ More precisely, we have estimated that in 1977 there were 44,000 households whose male head was a full-year employee on an intermediate estate or smallholder farm (21). Further, we estimated the existence of 54,000 male migrants (males whose families had a separate residence working on such agricultural enterprises).

20/ It is unlikely that additional information will be available soon. The most recent NSSA report, 1979-80, also failed to acquire any detailed information about consumption patterns, income, length of employment, or assets of household resident as wage laborers on peasant holdings.

Table 9--Cash flows and distribution for rural households farming customary land, by income category, 1968/69

Item	Recorded cash income (K)											
	No cash income	1-10	11-20	21-30	31-40	41-50	51-60	61-80	81-120	121-200	201+	All households
						Kwacha						
Gross farm cash receipts	0.8	2.9	8.7	14.7	20.2	20.0	25.1	27.7	37.0	53.5	48.7	12.6
Farm cash expenditures	2.6	.6	1.7	2.6	3.1	4.1	6.1	6.9	9.8	12.7	26.8	3.3
Net farm cash income	-1.7	2.3	7.1	12.1	17.0	16.0	19.0	20.8	27.2	40.8	22.0	9.3
Other earned cash income	.4	2.6	8.6	13.4	19.8	29.0	34.7	48.7	71.8	111.8	362.6	24.3
Cash transfers from:												
Abroad	3.7	1.6	2.6	1.8	1.6	.6	4.4	.9	.9	3.7	1.0	2.0
Within Malawi	4.8	1.6	1.2	1.1	1.2	1.6	3.4	.6	1.2	.6	.6	1.7
Total net cash income	7.2	8.1	19.5	28.4	39.6	47.2	61.5	71.0	101.1	156.9	386.2	37.3
						Thousands						
Number of households	82.3	294.7	170.8	93.8	58.4	35.4	25.6	46.0	30.9	27.4	20.3	885.0
						Persons						
Average household size	4.0	4.2	4.8	4.6	4.9	5.2	5.2	5.0	5.3	5.3	5.5	4.6

Notes: The recorded cash income categories are based on the sum of net farm cash income and other earned cash income.

Source: (35, tables R6.12-13).

17

The calculation of total household income, which is the sum of subsistence income and cash income, is presented in table 10. Beginning with "total net cash income," an adjustment to consumption was made. This consumption adjustment factor was found by subtracting total net cash income from total cash expenditures, which was found in NSSA (35, tables R6.12-13). 21/ This figure represents purchases in excess of total net cash income. For the lower cash income categories of K50 or less per annum, this figure was positive, meaning that these income groups had cash purchases greater than their total net cash income. This difference was presumably financed by unrecorded transfers or other cash income. For the incomes in excess of K50 per annum, consumption purchases were less than total net cash income. The accuracy of this method is confirmed by noting that when the consumption adjustment factor is summed across all income groups, the excess of cash expenditures on consumption items over total net cash income is close to zero. Thus, we conclude that the cash deficit position of lower income rural households was nearly offset by the surplus position of upper income rural households.

The value of subsistence income was determined by using the average household size of each income group, the estimated value of food consumed, and the consumption adjustment factor (table 10). Independent estimates place the value of per capita annual food consumption at K9.25, which consisted of 500 pounds of unshelled maize costing K3.00 per 200-pound bag and K1.75 worth of noncereal staple food items. 22/ For each income group, household subsistence income was calculated as the product of per capita annual food consumption (K9.25) and average household size minus the value of staple food purchases. 23/ For households with an income between K50 and K200, a full subsistence income was assigned; that is, no deduction for staple food purchases was made since these households were assumed to be engaged in significant cash cropping. In other words, we assumed that cash cropping households satisfied their basic subsistence requirements (K9.25 per capita) before selling surplus crops.

Limitations of the estimates for the nonmonetary component of rural incomes should be pointed out. Due to a lack of data, we were unable to calculate the value of certain nonmonetary production, including housing, manufacture of items for household use, hunting and gathering, and entertainment. This means that the estimates have understated the absolute level of income for some of the poorer households in society. Although unable to reach any firm conclusion about the distribution of income from these sources, we suspect it has been far from equitable. Given the extent of movement out of the subsistence economy, which was previously documented, it seems likely that the per capita value of this income component fell between 1968 and 1977. The decrease in the importance of this income component for poorer groups means that any increase in income inequity will be understated. Total income is presented as the sum of total net cash income and subsistence income (table 10). Also presented in the table are the number of households in each income group and average household size. Per capita income, easily obtained using these data, is also presented in table 10. This per capita household income figure is the value on which our rural income distribution results for 1968/69

21/ This adjustment to cash income is made since expenditure data are generally more reliable than income data.

22/ This is the preferred estimate derived from a review discussion found in (30, pp. 47-64).

23/ Values of staple food purchases are found in (35, table R6.13).

Table 10—Total per capita household income, subsistence income, and cash income category, 1968/69 for rural households by net cash income

Category	No cash income	Net cash income category (K) 1-10	11-20	21-30	31-40	41-50	51-60	61-80	81-120	121-200	201+	All households
						Kwacha						
Total net cash income	7.2	8.1	19.5	28.4	39.6	47.2	61.5	71.0	101.1	156.9	386.2	37.3
Consumption adjustment factor	6.8	5.1	5.7	6.7	4.6	4.2	NA	NA	NA	NA	NA	0.9
Subsistence income	31.8	35.0	36.8	32.4	31.8	30.0	48.1	46.3	49.0	49.0	NA	35.4
Total income	45.8	48.2	61.8	67.5	76.0	81.4	109.6	117.3	150.1	205.9	386.2	73.6
						Thousands						
Number of households	82.3	294.7	170.8	93.8	58.4	35.4	25.6	46.0	30.9	27.4	20.3	885.0
						Number						
Total household population	329.2	1,237.7	819.8	431.5	286.2	184.1	133.1	230.0	163.8	145.2	111.7	4,072.0
Average household size	4.0	4.2	4.8	4.6	4.9	5.2	5.2	5.0	5.3	5.3	5.5	4.6
						Percent						
Percentage of NSSA coverage	8.1	30.4	20.1	10.6	7.0	4.5	3.3	5.6	4.0	3.6	2.7	NA
						Kwacha						
Per capita household income	11.45	11.48	12.88	14.67	15.51	15.65	21.08	23.46	28.32	38.85	70.22	16.00

Notes: The consumption adjustment factor can be thought of as representing secondary redistribution. It is found by subtracting total net cash income from total consumption cash expenditures (not shown). For all households total net cash income exceeds total consumption cash expenditures by only 90 tambala (2.4 percent). The subsistence income groups having income greater than K50 are given full subsistence income since they are significant cash croppers.

NA = Not available.

Source: (35, tables R6.12-13); (21, p. 48).

were based. What remains is to generate per capita household income data for individuals not covered in NSSA, namely those residing in urban areas and large agricultural estates.

Estimation of Per Capita Household Income for Urban Areas and Estates

The primary data source for the urban component of the population was the National Household Income and Expenditure Survey for Urban Areas and Agricultural Estates, 1968 (HIES) (36). Additionally, the annual report of the commissioner of taxes for 1968/69 was used as a supplementary data source to provide greater details for upper income groups (44). HIES data stratify families by disposable income, cash receipts, and household size. Disposable income was defined as the sum of disposable cash income and disposable income in kind and was therefore the relevant income concept for our purposes. Table 11 presents the number of households and the average size of household for each income group which earned less than K2,000 per annum for all areas of the country not covered in NSSA. Although HIES contains data on households which had incomes in excess of K2,000, a more detailed account was available by using the information contained in (44). The income information derived from the tax report is presented in table 12; the estimate of household size for groups earning over K2,000 per annum of 4.28 persons per household is from HIES (36, pp. 34, 77, 120, 207, 250).

Information contained in tables 10-12 enables the derivation of estimates of per capita household income for all residents of Malawi. 24/

Distribution of Per Capita Household Income

The compilation of data from tables 10-12 is presented in table 13. The Gini coefficient for this set of data is 0.491, indicating considerable distributional inequity in Malawi, which is a consequence of a low-income, land-poor peasant class. Households engaged in subsistence farming were typically the poorest households in the country. A glance at tables 10 and 11 confirms this. Households described in table 10 are subsistence or cash crop households, with 62 percent having per capita incomes less than K13 per annum at 1968 prices. The households described in table 11 are generally not engaged in peasant agriculture. The contrast in earnings is startling; approximately 82 percent of the households in table 11 have a per capita household income in excess of K38 per annum in 1968 prices. Referring to table 10, we estimate that the number of subsistence/noncash cropping households (those with a total household income of less than K50) in Malawi in 1968/69 was 735,400. Table 13 demonstrates that individuals in these households, which make up approximately 65 percent of the population, receive no more than 31 percent of total income. The distribution of income within this bottom group remains a mystery since the data do not allow more detailed analysis of income distribution.

The middle-income groups, relative to the range in table 13, are thought to represent estate managers, business managers, and upper level civil servants.

24/ Difficulties with these data for estimating income figures were described above and the caveat remains in effect. The data are from sample surveys designed for other purposes. This necessitated adjustments to the data. Whenever adjustments required a subjective decision on our part, we sought to be generous in our interpretation, with the result that our estimates probably present a more equitable distribution of income than is actually the case.

Table 11--Distribution of households by income group and area, 1968

Income	Blantyre	Zomba	Lilongwe	Mzuzu	Small urban areas	Estate	Total Households	Total Population
				Number				
K0-100	2,970	504	519	57	350	8,748	13,148	
	(4.42)	(2.25)	(2.56)	(2.17)	(2.84)	(2.48)		38,402
K101-140	3,366	363	401	228	460	10,044	14,862	
	(4.47)	(2.50)	(3.01)	(2.65)	(3.21)	(2.65)		45,858
K141-200	4,026	467	638	228	1,390	5,757	12,500	
	(4.18)	(2.83)	(3.39)	(3.26)	(3.52)	(3.09)		43,720
K201-280	5,346	717	661	278	1,560	2,079	10,641	
	(4.32)	(3.17)	(3.63)	(3.80)	(3.78)	(3.68)		42,396
K281-400	4,356	563	730	339	1,760	945	8,693	
	(4.86)	(3.63)	(3.91)	(4.34)	(4.15)	(4.39)		38,992
K401-600	3,300	996	932	353	2,600	270	8,451	
	(5.09)	(4.31)	(4.54)	(4.82)	(4.72)	(4.61)		40,539
K601-1,000	1,848	644	425	203	1,560	162	4,842	
	(5.07)	(5.32)	(4.76)	(5.31)	(5.55)	(5.99)		25,525
K1,001-2,000	1,452	258	367	116	950	NA	3,143	
	(5.18)	(4.86)	(5.03)	(5.77)	(5.69)	NA	(5.31)	16,695
Total	26,664	4,512	4,673	1,802	10,630	27,999	76,200	292,128
							(3.82)	

Notes: Results computed from data in (36). Figures in parentheses are average household size.

NA = Not available.

Table 12--Per capita household income, 1968/69

Household income	Households	Per capita income
	Number	Kwacha
K2,000 - 2,999	1,398	602
K3,000 - 4,999	1,940	921
K5,000 - 7,999	1,235	1,449
K8,000 - 11,999	343	2,256
K12,000 - 15,999	98	3,207
K16,000 - 19,999	39	4,244
K20,000 - 29,999	29	5,569
K30,000 - 49,999	11	8,702
K50,000 - 99,999	4	14,355

Note: Results computed from data in (44).

Table 13--Distribution of per capita household income, 1968

Per capita income	Households	Mean household size	Mean per capita household income	Total income accruing to each income category	Cumulative percentage: Population	Cumulative percentage: Total
	--Number---		----Kwacha-----		--Percent---	
K5-11.99	379,970	4.16	11.47	18,130,342	36.02	15.68
K12-14.99	264,600	4.73	13.51	16,905,333	64.54	30.31
K15-19.99	93,800	5.01	15.56	7,316,934	75.26	36.64
K20-24.99	72,469	5.03	22.53	8,219,462	83.57	43.75
K25-29.99	40,152	4.65	28.39	5,297,545	87.83	48.34
K30-34.99	3,423	4.43	30.61	464,170	88.17	48.74
K35-39.99	28,261	5.23	38.77	5,734,238	91.54	53.70
K40-44.99	14,070	3.09	41.70	1,812,949	92.54	55.27
K45-49.99	7,732	3.13	46.36	1,120,521	93.09	56.24
K50-54.99	1,333	3.17	51.60	217,639	93.18	56.43
K55-59.99	3,917	3.73	57.11	835,462	93.52	57.15
K60-64.99	6,291	4.32	63.46	1,724,081	94.14	58.64
K65-69.99	6,073	4.73	66.50	1,910,213	94.79	60.29
K70-74.99	20,300	5.50	70.22	7,840,063	97.33	67.08
K75-79.99	1,760	4.15	75.54	551,744	97.50	67.56
K80-84.99	563	3.63	82.18	167,976	97.55	67.70
K85-89.99	1,000	4.10	87.43	358,376	97.64	68.01
K90-94.99	3,115	4.80	92.89	1,388,148	97.98	69.21
K100-124.99	7,432	5.03	106.07	3,986,471	98.83	72.66
K125-149.99	2,476	5.03	140.00	1,743,560	99.12	74.17
K200-249.99	1,324	5.53	230.50	1,689,104	99.289	75.63
K250-299.99	1,819	5.15	270.93	2,538,072	99.503	77.83
K600-699.99	1,398	4.28	602.34	3,603,800	99.639	80.95
K900-999.99	1,940	4.28	921.03	7,647,312	99.828	87.56
K1,000-1,499.99	1,235	4.28	1,449.07	7,659,784	99.949	94.19
K2,000-2,499.99	343	4.28	2,256.31	3,312,263	99.982	97.06
K3,000-3,499.99	98	4.28	3,207.48	1,343,934	99.992	98.22
K4,000-4,499.99	39	4.28	4,243.93	708,736	99.996	98.84
K5,000-5,999.99	29	4.28	5,568.69	690,518	99.9985	99.44
K8,000-8,999.99	11	4.28	8,701.64	408,977	99.9996	99.79
K2,000-14,999.99	4	4.28	14,355.14	244,037	100.00	100.00

Note: There are no observations for the income groups K95-K99.99, K150-K199.99, K300-599.99, K700-899.99 and K1,500-K1,999.99. In the case of households engaged in cash cropping, additional income was assigned on the basis of evidence in (30, 35, 33).

In 1968/69, most of these positions were still occupied by members of the former colonial administration. The upper income levels were estate owners and a few nonagricultural business persons. The upper income groups, those individuals with per capita income in excess of K600 per annum, constituted 0.36 percent of the population and received 19 percent of income. In other words, the highest income group average household income was at least 100 times greater than that received by those in the lowest income groups.

Distribution of Income, 1977

The estimation of income distribution for 1977 involves a methodology more complicated than that for 1968/69, but one that provides much more detail about the population. The methodology consists of two steps. First, a model of household structure and primary economic activity of each household's economically active member (based on the 1977 census report (39)) was constructed. Second, subsistence and cash income streams were assigned to each household member.

This household approach stands in contrast to the more conventional individual approach to income distribution. The latter involves assigning income streams to individuals while ignoring family size and other circumstances. The two principal advantages of the per capita household income method, as we call it, are that it allows comparison between economies with different household structures and within one economy over time. These points are especially important in developing countries, where family structure can change significantly over time, as well as vary dramatically across countries and regions at a single point in time. 25/

In addition to employing the household distribution approach, we also attempted some adjustment for the redistributive effects for which African societies are so well known. We distinguish conceptually between primary and secondary redistribution effects. For our purposes, primary redistribution can be thought of as a transfer of resources within the nuclear family. Secondary redistribution occurs between nuclear families, but generally within the context of the extended family. Both types of redistribution may involve cooperation between individuals; for example, sharing domestic and production tasks. Further, some transfers between urban and rural individuals can be treated in this way. In African economies, both primary and secondary redistribution play important roles in determining the level of per capita household consumption levels. Secondary redistributive effects are extremely difficult to quantify, which is especially true for Malawi given the paucity of recent national or local studies on this issue. We did not attempt, therefore, to incorporate secondary redistributive effects when calculating per capita household income streams. To the extent that the net beneficiaries of these transfers are likely to be lower income households, we exaggerated the degree of inequity in Malawian income distribution.

25/ The advantage of the present methodology is that it distinguishes between two households with identical incomes, but with different numbers of dependents. A more subtle, but equally important, point is that within a particular income category, changes over time in family structure may occur independently of changes in per capita income levels. For example, if the disintegration of the extended family occurs to a greater degree within one income category relative to others, this will cause a reordering of relative household total income levels. This type of structural change, however, would not correspond to changes in the ordering of household per capita income.

With respect to primary redistribution, we made an attempt to account for what we believe to be a major component of this effect, namely transfers by absentee males to their nuclear families. Other aspects of primary redistribution were not dealt with because of a lack of data. However, we believe that these other components are of relatively minor importance.

Data Sources

Some of the sources used for 1977, also used for the 1966 investigation, were discussed above and need not be repeated here. Foremost among these are HIES (36), NSSA (35), and the 1966 census report (34). Additional sources for the 1977 part of the study are:

(1) 1977 census final report (39). The 1977 census was the principal data source for this study. The information on economic activity included occupational classifications of the population by district, race, and sex. Other valuable information, presented in both censuses, concerned the number of dwelling units by district, as well as domestic and international migration data.

(2) Annual reports of the commissioner of taxes (43, 44). These reports provide detailed information about the incomes of the wealthiest personal taxpayers. But, for lower income taxpayers, the data are restricted to aggregate figures for taxpayers and tax collected. The wealthiest personal taxpayers, those assessed under Scheme II of the Income Tax Regulations, numbered 4,200 in 1968 and 8,200 in 1977. The lower income taxpayers comprised groups assessed under the following schemes: 26/

a) Those income taxpayers assessed under Scheme I who numbered 8,400 individuals in 1968 and 21,900 in 1977.

b) Small businessmen (with profits of less than K900 per annum) assessed under District Commissioner's Assessments who numbered 24,200 individuals in 1977.

c) Graduated taxpayers, which included all employees earning less than K900 per annum. Employees earning less than K122 per annum receive a credit for their graduated tax payments toward their minimum tax liability (see below). We believe that graduated tax payment data are not a reliable guide to the number of individuals earning an income between K900 and K122 because graduated tax payments are collected monthly. Estimates of total graduated taxpayers are then made annually without regard to part-time or full-time employment. A further weakness in the data is the evidence of significant avoidance of a graduated tax. A conservative estimate based on our figures of only full-time employment in this income category indicates that at least 88,000 (27 percent of the total) eligible wage earners avoid paying the graduated tax.

26/ In Malawi, all individuals earning more than K900 per annum must file an income tax return. These returns are assessed under one of Schemes I or II, and individuals are assessed under the scheme which indicates the highest tax liability. Scheme I does not take into account personal circumstances, while Scheme II does permit such considerations. Wealthier individuals generally have the greatest tax liability under Scheme II. While there is some overlap between the two schemes with respect to income, the demarcation level of income is approximately K2,800-K3,400 per annum.

d) Minimum taxpayers, which includes all adult males (18 years and older) regardless of employment status, who have not paid tax under any of the above schemes. There are certain limited exceptions to this liability, for example, sick or aged persons with no means and some categories of students.

(3) Reported Employment and Earnings Annual Reports, 1970-76 (37). This series surveys the salient characteristics of firms employing 20 or more employees. Results of the surveys are reported by industry, district, and private/public sectors. Distribution of earnings and employment within sectors is also provided. Beginning in 1977, the National Statistical Office (NSO) extended its coverage of employment statistics through a sample survey of firms with fewer than 20 employees. While this new employment series has increased official estimates of employment by 32,000 (10 percent) in 1977, even this adjustment allows for severe underestimates of total wage employment. The new series of employment data are not published in detail comparable to that found in the 1970-76 series. In particular, the earnings distribution is not presented. The new series data can be found in the NSO's monthly Statistical Bulletin (40) and the Malawi Statistical Yearbook, 1980 (38).

(4) Agricultural statistics. These sources can be broadly divided into two categories in addition to NSSA. First is the Compendium of Agricultural Statistics, 1977 (33). This contains details of purchases by the state marketing board (ADMARC) of important cash crops (tobacco, cotton, rice, maize, and groundnuts) by district. The district level data provide additional evidence about the development in recent years of the number of cash croppers and their mean incomes. Second, are the series of Agro-Economic Survey (AES) reports (30). This series began in 1968/69 and was intended to provide baseline information for the planning of area rural development projects. Most AES reports are based on detailed sample surveys in which socioeconomic and agronomic data were collected from selected households over 1- to 2-year periods. The AES reports are based on small samples (60-200 households) and cover relatively small geographical areas. While the AES reports provide a wealth of detail for small areas, they must be applied with caution when making inferences about district characteristics.

(5) Blantyre City Population Census, 1972 (42). This census report provides detailed economic and demographic information about the population of Blantyre. This report was used as the basis for assumptions about characteristics of Blantyre and Lilongwe cities.

A Model of Household Structure in Malawi

The 1977 census provides the reported occupation of all individuals in the country by sex and by industry. However, the census does not provide information on three factors crucial to the completion of the model of income distribution: (1) part-time (less than 10 months per year) wage employment, (2) household type and composition, and (3) differences within the smallholder sector. Since it was necessary to make inferences about these factors in order to accurately analyze income streams, and since data on these were most readily available at the district level, it was necessary to deal at that level. In the case of the first factor, the determinants of part-time employment vary considerably across the country, but are relatively consistent within districts. Most part-time employment is in commercial agriculture.

Thus, in a given district, part-time employment is a function of the size of the commercial farm sector and of the crop(s) grown. Since commercial agricultural activity is fairly homogeneous within districts, it was possible to apply part-time employment coefficients to districts as independent economic units.

The second factor, type of household and composition, was dealt with by developing a model of households that portrays three general household structures: (1) both spouses and dependents in residence, (2) females and their dependents in residence, and (3) male migrants who were absent from their "primary" household, but who were living and working within Malawi at the time of enumeration. Consideration of male and female migration within the country was especially important in quantifying the model. Since migration is best measured when small geographical areas with clearly defined boundaries are used, district level analysis proved most appropriate.

For the purposes of making distinctions within the smallholder sector, the 1977 census data were of little help, since all individuals whose principal activity was village farming were generally classified as alimi, which is roughly translated as peasant farmers. To analyze income distribution, it was necessary to distinguish between:

(1) Significant cash croppers (those characterized as earning more than K30 per annum in profits from crop production) and other alimi.

(2) Part-time (those who worked fewer than 10 months per year in peasant agriculture) and full-time alimi.

(3) Alimi working in districts with high, medium, or low land pressure and the implications of that location for the ability of alimi to satisfy their basic food requirements.

These distinctions were most readily made at the district level by using the AES reports, marketing data, and our own computations of land pressure.

The household classification system used here employs a simple economic activity classification (EAC) scheme (table 14). The scheme was designed to be compatible with the 1977 census employment classifications. The following definitions are used in table 14:

Lower paid means an income of less than K350 per annum in 1977 prices.

Estates are defined as freehold or leasehold farms employing 20 or more full-year employees.

Intermediate farms are defined as freehold or leasehold farms employing fewer than 20 full-time workers.

Smallholdings are farms on customary land worked primarily by family labor, but may also employ wage labor, generally on a seasonal basis.

Full-year employment is for at least 10 months per year. Since the 10-month period spans the entire growing season, we approximate this by describing such employment as 100 percent or fully employed.

Table 14--Definition of economic activity classifications (EAC)

Economic activity classification	Description of employment
1.0	Alimi
1.1	Full-time (100 percent) employment on own-holding: subsistence and significant cash cropping; that is, net income from cash cropping in excess of K30 per annum.
1.2	Full-time (100 percent) employment on own-holding: subsistence and marginal cash cropping; that is, net income less than K30 per annum.
1.3	Less than full-time (100 percent), but more than half-time (50 percent), employment on own-holding.
1.4	Less than half-time (50 percent) on own-holding.
2.0	Agricultural wage and salaried employees (estate, intermediate, and smallholder sector).
2.1	Full-time (100 percent) estate employment: salaried and managerial employees.
2.2	Full-time (100 percent) estate employment: higher paid, that is, clerical, supervisory, and skilled employees.
2.3	Full-time (100 percent) estate employment: lower paid, unskilled.
2.4	Full-time (100 percent) intermediate and smallholder employment; lower paid, unskilled.
2.5	Less than full-time (100 percent), but more than half-time (50 percent), estate employment: lower paid, unskilled (the growing season labor force).
2.6	Less than full-time (100 percent), but more than half-time (50 percent), intermediate and smallholder employment; lower paid, unskilled (the growing season labor force).
2.7	Less than half-time (50 percent) estate employment: lower paid, unskilled (peak season labor force).
2.8	Less than half-time (50 percent) intermediate and smallholder employment: lower paid, unskilled (peak season labor force).
3.0	Nonagricultural employees
3.1	Professional (professional, administrative, technical, and managerial).
3.2	Clerical, supervisory, plus high-paid sales and services.
3.3	Full-time production workers and lower paid sales and services.
3.4	Peak season production workers.
4.0	Nonagricultural family business workers in urban and rural areas (self-employed plus unpaid family business workers).
5.0	Proprietors (distinguished from 4.0 by employing labor for wages).
5.1	Large proprietors (such as estates, transport, manufacturing, construction, wholesale and retail, real estate). Defined as those reporting income from proprietorship to Department of Taxes.
5.2	Small proprietors (such as maize mill owners, small retailers, and small transporters). Do not report income from proprietorship to Department of Taxes.
6.0	Unemployed
7.0	International migrants
7.1	High remittance
7.2	Low remittance

Source: (22, p. 7).

Using this employment classification method, we were able to construct a variety of household types (tables 15 and 16). In households in which both spouses were present, we assigned each an employment classification even though in some cases the female was possibly not working for wages. In some cases, individuals were assigned hybrid employment classifications to reflect part-time wage employment by alimi. Pairings of couples by employment classification reflect our understanding of the social structure in Malawi. Summary statistics of the three major household types are also presented in tables 15 and 16. The first, and most common type, was the household in which the married couple and their dependents were resident. Although we portrayed this household type as an independent unit, almost all households are members of an extended family network. We designated the other two major household types as female-headed households and male-migrant households. The former is a household in which an adult female resides with her dependents; that is, mainly, but not exclusively, her children, but without her spouse present. This group includes not only widowed, divorced, and separated women, but also women whose spouses are temporarily absent as labor migrants.

In those cases where absentee spouses migrated to employment within Malawi, they constituted the third major household type, male-migrant households. We estimate that approximately 80 percent of these migrants reside on farms other than their own, with the balance living in urban areas. Even though these male migrants were not living with their spouses, they remained, in most cases, members of the nuclear family, remitting resources in cash or in kind. This completes our assessment of household structure and economic activity of household occupants in Malawi. 27/

A Methodology for Estimating Household Income Streams

Subsistence incomes. We began by calculating the value of per capita subsistence production/consumption for a national household in which labor was devoted exclusively to subsistence production. At the district level, adjustments were made for implications of land pressure and the number of economic dependents for production. At the household level, within districts, adjustments were made for long-term male migration and for periods of short-term wage employment by the adult male and/or female.

The basic per capita production/consumption figure to which adjustments were made was K20 at 1977 prices. This estimate is based on per capita annual consumption of unshelled maize of 500 lbs., valued at K16.25, 28/ and a noncereal subsistence production/consumption component valued at K3.75. 29/

27/ The actual determination of the size of the various employment categories and household structure is rather laborious, so we do not detail the methodology here. The interested reader is referred to (22).

28/ This is our preferred estimate derived from a review discussion found in (30, pp. 47-64).

29/ Although we did not calculate an aggregate subsistence output figure, it is clear that estimates of the value of subsistence agricultural production are significantly below those reported in the Malawi national accounts for 1977. There appear to be two reasons for this: different estimates for both prices paid for, and volume of, subsistence production. In recent years, despite the increasing amount of labor diverted from subsistence production to agricultural wage employment and increasing land pressure, the NSO has failed to alter its assumptions concerning the volume of production in the subsistence sector.

Table 15--Rural household classification, 1977

Household type by EAC			Estimated number of households
Male	:	Female	:
			Number
1.1		1.2/dw	167,300
1.2		1.2/dw	307,200
1.3/2.7		1.2/dw	64,400
1.3/2.8		1.2/dw	155,200
1.3/3.4		1.2/dw	4,300
1.4/2.5		1.2/dw	23,400
1.4/2.6		1.2/dw	13,600
1.4/2.7		1.4/2.6	2,200
		1.2/dw/wo	134,200
		1.2/dw/w	199,500
		1.1	53,200
		1.3/2.7	21,500
		1.3/2.8	60,900
3.1		3.1	5,200
3.1		3.2+2.1+2.2	1,900
3.1		dw	8,700
3.2		3.2+2.1+2.2	1,900
3.2		dw	10,500
3.3		1.2/dw	54,400
3.3		3.3	5,600
3.3		N.A.	7,700
2.1		dw	2,200
2.2		dw	12,700
2.3		2.3	14,600
2.3		1.2/dw	25,900
2.3		N.A.	40,300
2.4		1.2/dw	43,900
2.4		N.A.	53,900
4.0		4.0	21,500
4.0		1.2/dw	54,700
		5.2	100
5.2		dw	1,400
5.2		1.2/dw	1,400
	Joint-resident households		1,003,700
	Female-headed households		469,400
	Male-migrant households		101,900
	Total households		1,575,500
	Total dwelling units		1,734,700

Notes: "Rural" in this context includes small urban centers with fewer than 4,000 households. Also, the 1.2/dw classification, where dw represents the general category of domestic worker, is the result of a question asked in the 1977 census which was conducted during the agricultural slack season. Women were asked how they spent the majority of their working time during the reference week in August. This tended to understate the number of women engaged in agricultural production, since this is the agricultural slack season. We therefore assumed that all wives of male alimi were substantially committed to agricultural production. Finally, the classification wo refers to women and their dependents not receiving support from an absentee male, while w refers to women and their dependents receiving support from an absentee male.

N.A. = Not applicable.

The "Total households" figure may not add due to rounding.

Source: (22, p. 9).

Table 16--Urban household classification, 1977

Household Type by EAC			Estimated number of households
Male	:	Female	
			Number
1.2		1.2	1,000
1.3/3.4		1.2	2,400
1.3/3.4		N.A.	700
3.1 + 2.1		3.1	2,500
3.1 + 2.1		3.2	1,600
3.1 + 2.1		dw	2,100
3.1 + 2.1		N.A.	700
3.2 + 2.2		dw	16,200
3.2 + 2.2		3.2	1,600
3.3 + 2.3 + 2.4		dw	24,400
3.3 + 2.3 + 2.3		3.4/dw	600
3.3 + 2.3 + 2.4		1.2	800
3.3 + 2.3 + 2.4		N.A.	20,900
3.3 + 2.3 + 2.4		3.3	4,500
4.0		4.0	2,300
4.0		dw	6,200
4.0		1.2	700
4.0		N.A.	3,800
5.1 + 5.2		dw	100
N.A.		dw/w	4,300
N.A.		5.1 + 5.2	10
N.A.		3.3	900
	Joint-resident households		71,900
	Female-headed households		5,200
	Male-migrant households		26,100
	Total households		103,200
	Total dwelling units		99,400

Notes: The four major urban areas of Malawi are Blantyre, Lilongwe, Zomba, and Mzuzu.

N.A. = Not applicable.

The 3.1 + 2.1 classification denotes categories which have been combined for the urban classification.

With regard to the dw/w classification, we assumed that households in urban areas comprised of economically inactive females and their dependents are supported by transfers from other households.

The "Total households" figure may not add due to rounding.

Source: (22, p. 11).

To adjust income for land pressure, the degree of land pressure by district was estimated on a three-point scale, with these adjustment coefficients: high (0.825), medium (0.960), and low (1.075). However, since most farmers engaging in cash cropping satisfy their subsistence requirements first, their coefficient in both high and medium land pressure districts was revised to 1.0; in low land pressure districts, a value of 1.075 was used for cash croppers. 30/

Where family labor was diverted, either through long-term male migration or through seasonal wage employment by males or females, a downward adjustment was made to subsistence production. The longer term male migrant's contribution to subsistence output was assumed to be zero. Where the male was a full-time participant in subsistence production, we assumed his contribution to be 40 percent of the total and the female's contribution to be 60 percent. Where the male was employed off his own-holding for the growing season, his contribution to own-holding output was assumed to be reduced by 75 percent. For the male employed off the own-holding only during the peak season, his contribution to own-holding production was reduced by 50 percent. For female peak season employees, the reduction in subsistence production was assumed to be 25 percent. Examples of some of these calculations are presented in table 17. 31/

Income from Wage Employment and Business Sources. Ascribing an income stream to the urban and rural households is more difficult than assigning income streams to subsistence or cash-cropping households. Although some information on the occupations characterizing each category is available, the potential for income variation within each category outweighed the benefits of assigning income on the basis of EAC alone. As an alternative, it was possible to make use of the broad correlation between households' EAC's and tax categories, and in this way assign income streams for a number of EAC's without assigning precise income to each.

The data available on wage employment dictated the division of wage-earning households into four annual income groups: (1) over K4,000, (2) between K3,999 and K900, (3) between K900 and K122, and (4) less than K122. The distribution of income for the first group has the best documentation. Under Malawi's tax provisions, all individuals earning more than K4,000 pay income tax under Scheme II. For this group, detailed information is available from (37, part 5, table 6). Using this source, we were able to calculate the income distribution for all individuals with income in excess of K4,000 (table 18). It should be noted that income here is not solely from wage employment, but also from business activities, proprietorships, etc.

Ascertaining the distribution of income for the second group (K3,999-K900) is more complicated. Although individuals in this bracket are required to file an income tax return, there were two tax schemes applicable to them. Taxpayers were assessed under whichever scheme results in the higher tax liability. For

30/ All of these adjustment coefficients are based on the authors' general knowledge of the economic structure of districts. However, recognizing the absence of reliable estimates and the importance of this adjustment, we were conservative in our downward adjustment of these income figures.

31/ The Census Enumerator's Manual describes an economically active individual as one who is "actively engaged in an economic activity if he performs any work for remuneration in the form of wages, salary, profit or other income."

Table 17--Calculation of the subsistence component of income for Kasungu households

Male EAC	Female EAC	Household type: Economically active members	Household type: Economically inactive members (dependents)	Average household size	National per capita income	Land pressure factor	Subsistence income	Total household income
		Number			Kwacha			Kwacha
1.1	1.2/dw	2	1.88	3.88	K20	1.075	(.6 + .4)	83.40
1.3/2.7	1.2/dw	2	1.88	3.88	K20	1.075	(.6 + (.4) (.5))	66.70
1.4/2.5	1.2/dw	2	1.88	3.88	K20	1.075	(.6 + (.4) (.25))	58.40

1/ Computed from: ((.6) (FAF) + (.4) (MAF)), where "FAF" represents the female adjustment factor for female labor diversion; similarly "MAF" represents the male adjustment factor.

Source: (22, p. 28).

Table 18--Individuals paying income tax and receiving income in excess of K4,000 per year, 1977/78

Income group	Taxpayer households	Mean income	Average income tax rate
	Number	Kwacha	Percent
K4,000 - 5,000	1,016	4,500	9.7
K5,001 - 6,000	658	5,530	12.8
K6,001 - 8,000	758	6,980	17.1
K8,001 - 10,000	541	9,000	21.2
K10,001 - 12,000	399	11,010	23.8
K12,001 - 14,000	302	12,930	26.2
K14,001 - 16,000	227	14,960	28.5
K16,001 - 18,000	134	17,080	29.3
K18,001 - 20,000	111	19,030	31.1
K20,001 - 30,000	205	23,890	32.7
K30,001 - 40,000	50	34,430	35.9
K40,001 - 50,000	29	45,810	33.3
K50,001 - 60,000	17	56,080	34.7
K60,001 - 100,000	28	70,210	33.3
K1,000,001 - and over	14	202,510	22.6

Source: (44).

1977/78, 17 percent of taxpayers in this bracket were assessed under Scheme II. These were individuals with relatively high incomes, but without sufficient personal allowances to reduce their tax liability to the level of Scheme I. Income distribution data in this range for businesses employing over 20 individuals and for government employees were found in (37, tables 10-11). Parastatal employees were distributed over this range, proportionate to government employee figures. Employees in businesses with fewer than 20 employees were similarly assumed to have the same relative distribution of income as their counterparts in larger businesses (over 20 employees). The relative size of each of these sectors, in this income group, was: local and central government, 19.8 percent; parastatal organizations, 9.0; private businesses (more than 20), 29.5, private businesses (fewer than 20), 27.6; and proprietorships, 14.1.

The income distribution figures for these groups are presented in table 19. In addition to providing the number of economically active individuals by income group, table 19 shows the adjustments for joint income households. For the latter households, the income group to which they were assigned was based on the sum of the two incomes.

The estimation of distribution among income categories for the third group (K122-K900) is similar to that for the second group, the results of which are presented in table 20. Data for government and large business employment were obtained from Reported Employment and Earnings Annual Report (37). Since independent estimates of full-time estate employment exceeded those provided in (37), the extra employees were placed in the lowest income category, K122-K239. This is based on estimates of wage levels in the estate sector for 1977 of K10.50 per month in cash and in kind. Table 20 also includes income from business, which is based on District Commissioners' Assessments (45). These assessments, of which there were 212 in 1977/78, were made by district authorities for all businesses with profits less than K900 per annum. An adjustment was also made for the reduction in migrant income and the increase in recipient income as a result of domestic migrant remittances. 32/

The final wage employment group for which we need to estimate income streams is for those employees earning less than K122 per annum. 33/ Individuals in this category were principally alimi who supplemented their income with part-time wage employment, or full-time wage employment, on intermediate estates or smallholder farms. Unlike the earlier income categories where we were able to estimate size using tax data, the imprecise nature of the tax data for this group, and our belief that there has been widespread avoidance of the minimum tax, meant it was not possible to use tax data for this group. Instead, we imputed income streams to these individuals, based on the degree of their participation in wage employment, occupation, and subsistence activity.

In addition to alimi, this income category contains the self-employed and unpaid family business workers (4.0). 34/ For rural districts, there were two possible male-female occupational pairings: 4.0 married to 4.0 and 4.0 married

32/ See appendix for more information on migration and migrant remittances.

33/ Actually, some individuals earning between K122 and K149 are included in this category because of incomplete coverage of the tax data.

34/ Our estimates of income for this group are based on weak evidence. There has never been a national survey focusing on rural nonagricultural employment.

Table 19--Distribution of income among employees and business persons earning between K900 and K3,999

Income group	Economically active individuals	Migrant male households	Joint-resident joint-income households	Joint-resident single-income households	Female-headed households	Total households	Average number of dependents
			Number				
K900 - 1,499	12,331	547	3,482	4,793	0	8,849	2.41
K1,500 - 1,999	2,606	393	386	1,441	0	2,220	2.41
K2,000 - 2,999	7,551	421	2,732	1,666	0	4,819	2.41
K3,000 - 3,999	5,145	206	2,223	493	0	2,922	2.41

Table 20--Distribution among income groups of employees and business persons earning between K122 and K899

Income group	Economically active individuals	Migrant male households	Joint-resident joint-income households	Joint-resident single-income households	Female-headed households	Total households	Average number of dependents
			Number				
K122 - 239	200,777	34,943	19,295	126,318	926	181,482	2.02
K240 - 399	37,512	6,672	3,155	24,530	0	34,357	2.22
K400 - 599	26,081	3,758	4,597	13,129	0	21,484	2.41
K600 - 899	15,976	2,484	2,282	8,928	0	13,694	2.41

to 1.2/dw. For the latter group, the treatment was the same as above; that is, a subsistence and a wage income were assigned to each household. For the 4.0 married to 4.0, a wage income was imputed to both individuals. The income distribution figures for this final income group are presented in table 21 along with a breakdown by per capita household income and occupation.

To obtain an estimate of the number of economic dependents, we added the number of economically active individuals over 10 years of age who listed themselves as dependents in the 1977 census to the total number of individuals less than 10 years of age by district. 35/ While this meant we ignored variations in household size within districts, there were insufficient data to do otherwise. Male migrant households were assumed to contain only one

Table 21--Number of households with income from subsistence production, wage employment, and business sources by household type for nongraduated, tax-paying households with per capita incomes below K149 per annum in 1977

Household E.A.C.		Rural household per capita income per annum						
Male	Female	K0-9	K10-19	K20-29	K30-39	K40-49	K50-74	K75-99	K100-149
		Number							
1.1	1.2/dw	0	954	30,657	89,948	45,714	0	0	0
1.2	1.2/dw	0	131,361	175,845	0	0	0	0	0
1.3/2.7	1.2/dw	0	0	64,372	0	0	0	0	0
1.3/2.8	1.2/dw	0	3,989	151,227	0	0	0	0	0
1.3/3.4	1.2/dw	0	103	6,543	0	0	0	0	0
1.4/2.5	1.2/dw	0	0	0	23,416	0	0	0	0
1.4/2.6	1.2/dw	0	0	657	12,950	0	0	0	0
1.4/2.6	1.4/2.6	0	0	0	0	2,185	0	0	0
	1.2/dw/wo	0	134,232	0	0	0	0	0	0
	1.2/dw/w	0	0	141,048	0	0	0	0	0
	1.2/dw/w	0	0	0	8,227	43,254	0	0	0
	1.2/dw/w	0	0	0	0	0	0	94	1,223
	1.1	0	0	24,982	28,184	0	0	0	0
	1.3/2.7	0	98	21,377	0	0	0	0	0
	1.3/2.8	0	6,394	54,471	0	0	0	0	0
4.0	4.0	0	5,586	11,172	0	0	0	0	0
4.0	1.2/dw	0	0	18,218	18,218	0	0	0	0
Remitters from graduated category									
	dw/w	0	5,654	0	0	0	0	0	0
2.4	1.2/dw	0	0	0	0	43,900	0	0	0
2.4		0	0	0	0	0	0	53,916	
1.3/3.4		0	0	0	0	0	676	0	
Total		0	282,717	706,223	180,943	153,272	676	54,010	23,235

Source: (22, pp. 34-35).

35/ Economic dependents are defined as the sum of the "dependent," "independent," "student," and "other categories" in table 26 of the 1977 census report.

person, since the responsibility for dependents usually rests with the wife. Further, we assumed that upper income households will have more dependents. This assumption is based on our understanding of dependent migration within the extended family.

Distribution of Per Capita Household Income for 1977 and 1968/69

The compilation of the data from the preceding tables forms a picture of income distribution for Malawi as a whole for 1977. These results are presented in table 22, for which the Gini coefficient is 0.530.

Tables 21 and 22 show that Malawi was a predominantly agricultural economy. Households engaged in agriculture, either as subsistence workers or wage employees, were the poorest in the economy. The 1.4 million households in table 21 make up about 83 percent of the total number of households in the country. According to table 22, 88 percent of the households with a per capita income of less than K149 are involved in agricultural activity. Households with a per capita income of less than K149 account for nearly 95 percent of the population and receive 56.7 percent of total income. The remaining 43.3 percent of income accrues to the top 5 percent of the population. We were unable to identify these individuals by occupation.

When comparing the distribution of income for the two periods analyzed here, a caveat must be kept in mind. The methods used to derive the results for the two periods were substantially different. Although it is our view that both methods and the results they produce are reliable, we recommend that strict comparison of Gini coefficients and deciles be avoided.

Earlier, we termed the analysis of data for the two periods, 1968/69 and 1977, as the direct evidence on distributional trends. The results of the analysis of the direct evidence are compatible with the evidence presented earlier on the nature of Malawi's development strategy over the same periods. Together, the two pieces of evidence indicate that low-income groups have suffered an erosion in their relative income position. Table 23 presents a comparison of the share of income accruing to population deciles. Again, the differences that appear between the two periods should be treated with caution. Nonetheless, it appears that all income groups, except the top 2.5 percent of the population, have seen their share of total income decrease. We believe this change can be clearly linked to the estate-oriented strategy pursued in Malawi.

There are a few additional points to keep in mind when comparing income distribution data for the 2 years. Most important to remember is that all the income figures presented are in nominal terms. In most Western developed economies, the question of real versus nominal values would be of only modest concern, due to the similarity of the market basket of goods purchased by all income groups. However, in an economy such as Malawi's, which has a significant subsistence production sector, there is scope for a differential impact of price inflation. In Malawi, a farmer who is wholly self-sufficient in maize production is largely insulated from the effects of price inflation in staple food items. On the basis of varying degrees of self-sufficiency, there exists the potential for differential price inflation effects. We attempted to estimate these effects, but were unable to arrive at a clear result because of data limitations.

Another pitfall to avoid when comparing these distribution data is not to treat the occupational composition of percentile groups as uniform over time.

Table 22--Per capita household distribution of income in Malawi, 1977

Per capita household income	Number of households	Mean household size	Mean per capita income	Total income accruing to each income category	Cumulative percentage of population	Cumulative percentage of total income
	--Percent--		--Kwacha--		--Percent--	
K10 -19.99	282,717	3.36	15	14,248,937	16.14	4.4469
K20 -29.99	706,223	3.51	25	61,971,068	58.26	23.7873
K30 -39.99	180,943	3.66	35	32,178,798	69.51	31.0211
K40 -49.99	298,885	3.98	45	53,530,304	89.73	47.7273
K50 -74.99	1,602	2.39	62.5	239,299	89.79	47.8019
K75 - 99.99	81,695	2.16	87.5	15,440,355	92.79	52.6207
K100 - 149.99	42,961	2.46	125	13,210,508	94.59	56.7435
K150 - 199.99	46,153	4.41	175	35,618,578	98.04	67.8596
K250 - 299.99	8,275	4.41	275	10,035,506	98.66	70.9916
K300 - 349.99	6,672	1.00	325	2,168,400	98.78	71.6683
K350 - 399.99	1,827	4.41	375	3,021,401	98.91	72.6113
K500 - 599.99	8,156	2.84	550	12,739,672	99.31	76.5872
K700 - 799.99	5,200	2.78	750	10,842,000	99.55	79.9708
K1,000 - 1,249.99	2,009	2.72	1,125	6,147,540	99.65	81.8894
K1,250 - 1,499.99	658	4.41	1,375	2,460,920	99.69	82.6574
K1,500 - 1,749.99	758	4.41	1,625	5,432,018	99.75	84.3527
K1,750 - 1,999.99	393	4.41	1,875	3,249,619	99.78	85.3668
K2,000 - 2,249.99	541	4.41	2,125	5,069,846	99.82	86.9491
K2,250 - 2,499.99	399	4.41	2,375	4,179,026	99.85	88.2535
K2,500 - 2,999.99	723	4.41	2,750	8,768,183	99.91	90.9898
K3,000 - 3,499.99	359	4.41	3,250	5,145,368	99.93	92.5956
K3,500 - 3,999.99	440	4.41	3,750	7,276,500	99.97	94.8665
K4,000 - 4,999.99	111	4.41	4,500	2,202,795	99.97	95.5539
K5,000 - 5,999.99	205	4.41	5,500	4,972,275	99.99	97.1057
K6,000 - 7,999.99	50	4.41	7,000	1,543,500	99.999	97.5874
K10,000- 19,999.9	74	4.41	15,000	4,895,100	99.999	99.1151
K40,000- 59,999.9	14	4.41	45,920	2,835,101	100.00	100.00
Total (mean)	1,678,043	(3.51)		320,422,616		

Notes: The mean per capita income (cash and subsistence) before direct taxes = K57.8.

Source: (42, pp. 37-38).

For those cases where there was a marked change in the relative share of income received, it would be a mistake to assume that particular individuals or even occupations were the beneficiaries (or victims) of this change. Given the massive structural change which occurred in Malawi as well as the potential for differential inflation effects, it would be incorrect to assume that individuals or occupations retained the same relative position over the 9-year period.

A third consideration which cannot be quantified is the treatment of expatriate remuneration. If such remuneration could be accounted for, it would make the 1977 distribution data less equitable relative to 1968-69. In 1968, Malawi had been independent for only 2 years and still had a large number of expatriates in official positions. The salaries and wages received by these individuals were almost entirely paid within the country, and thus were included in the income distribution data for 1968. In 1977, there existed a reduced, but still significant number of expatriates in Malawi. Many of these people were receiving external salary supplements not reflected in the data. While their numbers are not large, even a few thousand households added to the upper regions of the distribution will affect the Gini coefficient.

GOVERNMENT BUDGET AND RURAL DEVELOPMENT POLICY

The direct evidence of trends in income distribution indicates that distributional inequity increased during the period under consideration. This impression is consistent with the first piece of indirect evidence considered above, the nature of Malawi's economic development strategy. The final piece of indirect evidence to be analyzed are government programs and policies which offset, or were capable of offsetting, the pattern of income distribution. We examine the government's sources of local funds and then investigate the government's development priorities, past and present, by examining the composition of recurrent and development account expenditures. The main part of this section, however, is concerned with the consequences of government expenditures for income distribution in those areas where there was the greatest potential for redistribution: health, education, and rural development.

Sources of Government Revenue

Government revenues are derived from two sources (domestic and international) with the latter consisting of multilateral and bilateral grants and loans.

Table 23--Percentage of total income accruing to population deciles

Year	Percentage of population											Gini
	10	20	30	40	50	60	70	80	90	95	97.5	coef.
	Percent of income											
1968/69	4.3	8.6	13.0	17.6	22.7	27.9	33.5	41.0	51.4	61.0	67.6	0.491
1977	2.7	6.0	10.7	15.3	20.0	24.9	31.4	39.7	47.9	58.0	66.0	.530

Source: (21, p. 58).

Domestic revenues can be divided into a number of components distinguished by source.

In the years immediately after independence, most government revenues came from the "miscellaneous" category in table 24, the largest part of which was British budgetary assistance. During 1964-67, approximately 48 percent of recurrent account spending was provided by the British. 36/ The second largest source of revenue was import taxes, followed by taxes on business. In the subsequent period, 1968-1971/72, import taxes became the largest single source of revenue, while taxes on business were the next largest source of domestically generated revenue. This established a relationship that exists to the present day: import and business taxes constitute the principal sources of revenue for the government. For the most recent period, these two provided over 70 percent of the government's locally generated revenue. The relative contribution to revenues of what we call personal taxes (that is minimum tax, graduated tax, district commissioner's assessments and P.A.Y.E. tax), did not change significantly since independence, providing between 9.9 percent and 16.1 percent of local revenue. 37/ We cannot precisely determine whether the

36/ This subvention was an attempt by the British to give Malawi time to adjust its revenue sources which during the period of Federation were heavily dependent on subsidies from Southern Rhodesia. Morton documented the extent of British aid to Malawi between 1964 and 1972-73. She presented data which show that Britain's contribution to the Malawi government's operating budget between 1964 and 1971/72 was K56.42 million (50).

The actual amount of the maximum yearly grant was negotiated at the beginning of each year by British and Malawian officials. The maximum grant and the amount actually drawn are given below:

Year	Agreed maximum	Amount used	Year	Agreed maximum	Amount used
	-Kwacha-			-Kwacha-	
1964	8.50	10.00	1969/70	7.26	7.26
1965	12.50	11.88	1970/71	4.20	4.20
1966	10.60	8.48	1971/72	3.60	.84
1967	9.20	8.32	1972/73	2.60	-.96

Source: (50, p. 83).

37/ Malawi's personal tax structure is moderately complicated. The minimum tax is payable by most Malawian males over the age of 18 earning less than K122 per annum. Some exceptions are made for the elderly, the infirm, and students. Females are not liable for the minimum tax. The graduated tax is payable by all individuals, male and female alike, who earn between K122 and K900 per annum. The graduated tax is paid monthly by the purchase of stamps. If an individual, during 1 month earns an income which is not an annual rate of between K122 and K900, he/she must purchase the necessary stamps. If, at the end of the tax year, that individual does not qualify for payment of graduated tax, then his/her stamp purchases are credited toward the minimum tax. In the case of an overpayment, no refund is granted. No allowance for personal circumstances, for example, dependents, is permitted with either the graduated or minimum tax. District commissioners' assessments constitute a tax on income derived from businesses yielding profits of less than K900 per annum. As can be seen, it is not a significant source of revenue. The

Table 24--Absolute and relative composition of Malawi government revenue sources (1980 prices)

Revenue source	1964-1967		1968-1971/72		1972/73-1975/76		1976/77-1979/80		1964-1979/80	
	Amount	Share of total	Amount	Share of total	Amount	Share of total	Amount	Share of total	Amount	Share of total
	K1,000	Percent	K1,000	Percent	K1,000	Percent	K1,000	Percent	K1,000	Percent
Minimum tax	NA	NA	18,877	4.9	16,686	3.9	10,313	1.7	NA	NA
Graduated tax	23,681	5.8	10,699	2.8	12,296	2.8	12,316	2.0	107,237	5.8
District commissioner's assessments	NA	NA	555	.1	812	.2	1,002	.2	NA	NA
P.A.Y.E. tax	16,736	4.1	26,485	6.9	39,718	9.2	62,641	10.0	144,580	7.8
Tax on business enterprises	30,712	7.5	62,991	16.5	100,688	23.2	172,358	28.0	366,749	19.9
Motor vehicle licenses	5,610	1.4	9,552	2.5	9,803	2.3	8,123	1.3	33,088	1.3
Other licenses	4,348	1.1	3,957	1.0	3,451	.8	2,760	.4	14,516	.8
Duties	1,503	.4	2,016	.5	2,589	.6	3,262	.5	9,370	.5
Excise taxes	7,766	1.9	19,626	5.1	29,775	6.9	27,927	4.5	85,094	4.6
Import taxes	79,981	19.5	124,558	32.6	180,395	41.6	267,009	43.3	651,943	35.4
Miscellaneous	239,762	58.5	102,954	26.9	36,968	8.5	50,583	8.2	430,267	23.4
Total	410,124	100.0	382,326	100.0	433,182	100.0	616,481	100.0	1,842,113	100.0

NA = Not available.

1/ P.A.Y.E. = Pay-as-you-earn.

Source: (32).

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nature of the overall tax burden is progressive or regressive. However, some observations are possible. Motor vehicle licenses, other licenses, duties, and excise and import taxes are almost certainly progressive in nature. The minimum tax, which affects the largest number of people, is decidedly regressive. The graduated and P.A.Y.E. taxes are generally progressive since they are paid largely by multinational companies and affluent local business persons. In the case of district commissioner's assessments, no precise estimate of the incidence of taxation can be made.

The second main source of revenue for the government was official development assistance (ODA) in the form of grants and loans. Table 25 provides estimates of ODA for three 4-year periods. The importance attributed by donors to various development areas can be inferred by the share of total expenditures financed by ODA. As table 27 shows, the single most important area of development expenditures was transport for the 12-year period, 1968-1979/80; over 40 percent of total donor expenditures were for transport projects. Further, in only four other areas, three of which are part of physical infrastructure, did the donors' shares exceed that provided for transport. The collective expenditure heading "physical infrastructure" (not shown) received 63 percent of total development account expenditure. 38/ For all but one of the areas included in infrastructure (that being the new capital), at least 73 percent of financing was provided by donors. For the entire 12-year period, the local component of the development account was an average of 23.9 percent. This still amounts to a sizable absolute figure, K220 million in current terms.

Government Expenditures

One of the more important pieces of indirect evidence of the trends in income distribution is the pattern of government expenditures. Certain types of expenditures, such as education and health care, have the potential to ameliorate the distributional impact of the estate-based development strategy. For this reason, it is important to examine carefully the allocation of government spending. This section look initially at expenditures on the recurrent and development accounts, and then examines more closely spending on education, health, and rural development.

The Pattern of Recurrent Account Spending

Expenditures on the recurrent account represent the maintenance and operating costs of current operations. Table 26 presents constant Kwacha expenditures

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37/ (Continued) P.A.Y.E. tax or, alternatively, the income tax, is levied against individuals' earnings in excess of K900 per annum. This is nominally a progressive tax. However, in the past, individuals with a taxable income in excess of K40,000 have enjoyed certain deductions which caused their average tax rate to be lower than that paid by individuals earning appreciably less (43, p. 29). In fairness, this was the case for less than 100 individuals during the tax year 1977/78. The effective tax rate is generally a progressive one. The income tax does permit allowances for personal circumstances. As a result, many individuals with a gross income of more than K900 have a taxable income of less than K900 and thus are eligible to pay income tax on the graduated schedule. In cases where an individual is liable for tax on two schedules, he/she must pay the greater amount.

38/ Infrastructure includes the following categories: new capital city, government buildings, posts and telecommunications, power, transport, water and sanitation, and works organization.

Table 25--Development expenditures provided by donor organizations, by expenditure category

Expenditure category	1968-1971/72		1972/73-1975/76		1976/77-1979/80		1968-1979/80	
	K1,000*	Percent of total	K1,000*	Percent of total	K1,000*	Percent of total	K1,000*	Percent of total
Community and social development	130	0.1	125	10.7	55	14.8	310	9.4
Education	21,436	88.3	9,121	76.9	22,574	80.1	53,181	83.1
Finance, commerce, and industry	4,436	50.4	1,552	29.1	15,286	77.2	21,274	62.7
Government buildings	564	7.1	6,024	14.9	258	.4	6,846	5.9
Health	1,299	41.7	10,678	80.9	9,575	85.8	21,552	78.4
Housing	3,296	54.3	2,824	42.7	6,384	61.3	12,504	54.1
Miscellaneous	1,581	65.4	4,660	57.5	12,340	62.9	18,581	61.7
Agriculture	43,703	80.3	51,461	80.5	61,623	87.2	156,787	83.0
Fisheries	622	81.0	1,221	59.7	1,233	58.3	3,076	62.4
Forestry	7,528	90.9	10,895	86.3	12,857	89.5	31,280	88.7
Surveys and lands	2,096	83.9	1,885	83.2	571	69.4	4,552	80.7
Veterinary	3,782	58.3	6,169	80.8	4,702	77.2	14,653	80.7
New capital	17,403	91.9	21,012	90.6	3,221	37.5	41,635	82.1
Posts and telecommunications	8,973	94.4	14,831	94.1	14,752	94.8	38,556	94.4
Power	10,418	86.7	15,808	99.1	41,858	100.0	68,084	97.7
Transportation	81,624	87.9	80,520	77.7	209,621	88.5	371,765	85.8
Water and sanitation	5,463	85.9	4,923	93.8	22,821	94.2	33,207	92.6
Works organization	11,179	82.9	2,047	66.4	1,065	94.8	14,291	73.1
Total	225,533	82.9	245,756	71.8	440,796	75.2	912,085	76.1

*1980 prices.

Source: (31).

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Table 26--Expenditures on recurrent account for 4-year periods (1980 prices)

Revenue source	1964-1967		1968-1971/72		1972/73-1975/76		1976/77-1979/80		1964-1979/80		1980/81-1985/86	
	Amount	Share of total	Amount	Share of total	Amount	Share of total	Amount	Share of total	Amount	Share of total	Amount	Share of total
	K1,000	Percent	K1,000	Percent	K1,000	Percent	K1,000	Percent	K,1000	Percent	K1,000	Percent
Public debt charges	56,515	13.7	61,620	13.2	87,080	16.3	126,538	18.0	331,753	15.6	116,281	27.4
State residences	359	0	1,584	.3	2,068	.4	11,211	1.6	15,222	.7	2,549	.6
Defense	10,287	2.5	12,941	2.8	33,031	6.2	82,542	11.7	136,801	6.5	40,205	9.5
Police	27,441	6.8	27,623	5.9	26,624	5.0	43,441	6.2	125,129	5.9	24,275	5.7
Agriculture, natural resources	NA	NA	17,208	3.7	23,323	4.4	30,022	4.3	NA	NA	16,865	4.0
Forestry and game	24,733	6.0	3,683	.7	4,653	.9	6,734	1.0	135,148	6.4	4,198	1.0
Veterinary	NA	NA	6,609	1.4	7,794	1.5	10,389	1.5	NA	NA	6,112	1.4
Education	56,920	13.8	80,389	17.2	83,407	15.6	88,257	12.5	308,973	14.6	49,422	17.6
Health	27,090	6.6	31,122	6.7	34,447	6.4	46,285	6.6	138,944	6.6	26,230	6.2
Community development	4,541	1.1	1,292	NA	3,637	.7	2,619	.4	12,089	NA	NA	NA
Transport and communications	5,519	1.3	6,507	1.4	4,265	.8	9,895	1.4	26,186	1.2	5,599	1.3
Posts and telecommunications	16,066	3.9	11,529	2.5	9,021	1.7	10,161	1.4	46,777	2.2	5,321	1.3
Works and supplies	38,804	9.4	41,541	8.9	39,042	7.3	40,826	5.8	160,213	7.6	18,581	4.4
Other	145,265	35.1	163,611	35.0	173,006	32.2	195,414	27.7	677,296	31.9	108,906	25.6
Total	413,540	100.0	467,260	100.0	535,724	100.0	704,354	100.0	2,120,878	100.0	424,544	100.0

NA = Not available.

Source: (32).

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for the major categories of the recurrent account for 4-year periods beginning in 1964. Over the years, the composition of spending did not undergo substantial change. Apart from "other," the largest expenditure categories were education and public debt charges which collectively received an average of 30.2 percent of the government's current expenditures. The education component reflects the continuation of the relatively large primary education system established during the colonial era.

Public debt charges in the early years of independence reflect responsibility for debt incurred during the colonial and Federal periods. More recently, public debt charges increased in response to the increasing budget deficit and high interest rates in Eurocurrency markets. Even adjusted for inflation, the deficit had an upward trend. 39/

Development Account Spending

Development account expenditures are perhaps the most interesting, since they provide some evidence of the government's spending priorities at present and for the near future. Development account spending by category is presented in table 27 for the 4-year periods beginning with 1964-67. The four categories of immediate interest are: (1) transport, (2) agriculture, (3) education, and (4) health. The first two are important because they are the largest components of the account, constituting an average of 50 percent of the development budget. The latter two are of interest because they are the most likely tools of any redistributive effort which might be undertaken by the government.

The sector that received the most resources in the development account spending was transport, with agriculture a distant second. The government concentrated development efforts on the creation and expansion of a transport network and on the expansion of the agricultural sector. Equally obvious is the lack of development attention paid to education and health care. For the entire period, expenditures in the latter two areas amounted to an average of 8 percent of total development account expenditures.

Table 28 presents development and recurrent account expenditures for education, health, agriculture/natural resources, and transport/communications. Table 29 reinforces the impression formed from earlier data. For education, recurrent expenditures were fairly stable, 10-20 percent, while the development account was more volatile, ranging between 1.6 percent and 21.4 percent. The greatest development emphasis in education occurred in the early post-independence years. By 1972/73, development account spending had tapered off to less than 10 percent. In fact, spending on primary education was curtailed even earlier. The 10.1-percent and 11.8-percent figures for 1970/71 and 1971/72, represent the expansion of the University of Malawi.

39/ By the mid-1970's, Malawi had accumulated a sizable debt owed to donor countries. In response to growing international concern over the impact of debt repayment on the development prospects of these "least developed countries," Western aid donors canceled many of the official loans to these countries. Malawi benefited from this policy since much of its bilateral debt was canceled at this time. The recent substantial rise in debt-service expenses is due to large borrowing in the Eurocurrency market. For a more detailed account of Malawi's debt problems, see (10).

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Table 27--Expenditures on development account for 4-year periods (1980 prices)

Expenditure category	1964-67		1968-71/72		1972/73-1975/76		1976/77-1979/80		1964-1979/80	
	Amount	Share of total	Amount	Share of total	Amount	Share of total	Amount	Share of total	Amount	Share of total
	K1,000	Percent	K1,000	Percent	K1,000	Percent	K1,000	Percent	K1,000	Percent
Community and social development	611	0.5	1,741	0.6	1,169	0.3	371	0.1	3,892	0.3
Education	12,647	11.3	24,285	8.9	11,857	3.5	28,187	4.9	76,576	5.8
Finance, commerce, and industry	8,628	7.7	8,810	3.2	5,332	1.6	19,798	3.4	42,568	3.3
Government buildings	10,283	9.2	7,960	2.9	40,544	11.9	66,789	11.5	125,596	9.6
Health	1,405	1.3	3,115	1.1	13,199	3.9	11,161	1.9	28,880	2.2
Housing	5,074	4.5	6,071	2.2	6,618	1.9	10,408	1.8	28,171	2.2
Miscellaneous	3,462	3.1	2,419	.9	8,102	2.4	19,606	3.4	33,589	2.6
Agriculture	10,304	9.2	54,406	20.1	63,896	18.7	70,706	12.2	199,312	15.2
Fisheries	515	.5	768	.3	2,046	.6	2,114	.4	5,443	.4
Forestry	7,946	7.1	8,286	3.1	12,630	3.7	14,363	2.5	43,225	3.3
Surveys and lands	3,137	2.8	2,497	.9	2,266	.6	823	.1	8,775	.7
Veterinary	1,068	1.0	4,434	1.6	7,631	2.2	6,094	1.1	19,227	1.5
New capital	756	.7	18,942	7.0	23,198	6.8	8,591	1.5	51,487	3.9
Post and telecommunications	3,910	3.5	9,504	3.5	15,766	4.6	15,558	2.7	44,738	3.4
Power	6,019	5.4	12,012	4.4	15,844	4.6	41,856	7.2	75,731	5.8
Transportation	22,747	20.3	92,859	34.2	103,665	30.3	236,746	40.9	456,017	34.8
Water and sanitation	6,097	5.4	6,362	2.3	5,248	1.5	24.234	4.2	41,941	3.2
Works organization	4,983	4.4	15,333	5.7	3,083	.9	1,124	.2	24,523	1.9
Total	112,000	100.0	272,000	100.0	342,000	100.0	579,000	100.0	1,307,000	100.0

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Table 28--Malawi government development and recurrent account expenditures for selected categories and as a percentage of total expenditure

Expenditure category and year	Development		Recurrent	
	K1,000	Percent of total	K1,000	Percent of total
Education:				
1964	3,423	21.4	10,560	11.0
1965	3,952	14.0	12,281	12.6
1966	2,974	8.0	14,533	14.2
1967	2,298	7.4	19,546	16.5
1968	2,942	7.0	19,175	16.8
1969	7,209	11.4	21,000	18.2
1970/71	8,924	10.1	20,477	16.9
1971/72	9,210	11.8	19,737	16.8
1972/73	4,107	6.5	21,896	16.7
1973/74	3,386	4.7	20,935	16.3
1974/75	2,530	2.7	20,795	15.5
1975/76	1,834	1.6	19,781	14.0
1976/77	2,809	3.0	20,020	13.9
1977/78	7,455	5.4	20,117	12.6
1978/79	10,719	5.3	24,087	12.7
1979/80	7,204	4.1	24,033	11.2
Health:				
1964	0	0	5,399	5.6
1965	293	1.0	6,440	6.6
1966	597	1.6	6,957	6.8
1967	515	1.7	8,294	7.0
1968	687	1.6	7,726	6.8
1969	693	1.1	7,875	6.8
1970/71	477	.5	8,023	6.6
1971/72	1,258	1.6	7,498	6.4
1972/73	860	1.4	8,263	6.3
1973/74	3,173	4.4	8,436	6.6
1974/75	4,952	5.2	8,434	6.3
1975/76	4,214	3.7	9,314	6.6
1976/77	3,700	4.0	9,354	6.5
1977/78	1,715	1.2	10,705	6.7
1978/79	2,134	1.0	13,023	6.9
1979/80	3,612	2.1	13,203	6.2

Continued--

Table 28--Malawi government development and recurrent account expenditures for selected categories and as a percentage of total expenditure (continued)

Expenditure category and year	Development		Recurrent	
	K1,000	Percent of total	K1,000	Percent of total
Agriculture and natural resources:				
1964	2,119	13.3	5,667	5.9
1965	6,499	23.0	5,512	5.7
1966	6,248	16.9	6,174	6.0
1967	7,086	22.8	7,380	6.2
1968	3,852	9.2	8,119	7.1
1969	18,573	29.4	6,851	5.9
1970/71	34,816	39.3	7,127	5.9
1971/72	21,362	27.5	7,079	6.0
1972/73	18,616	29.6	9,213	7.0
1973/74	20,581	28.7	9,025	7.0
1974/75	25,045	26.5	8,895	6.6
1975/76	21,961	19.4	8,637	6.1
1976/77	19,518	21.2	9,223	6.4
1977/78	23,821	17.3	11,355	7.1
1978/79	22,719	11.2	13,216	7.0
1979/80	27,202	15.6	13,351	6.3
Transport and communications:				
1964	1,220	7.6	1,262	1.3
1965	6,036	21.3	1,338	1.4
1966	10,614	28.7	1,391	1.4
1967	6,877	22.2	1,528	1.3
1968	12,820	30.6	1,363	1.2
1969	18,079	28.6	1,535	1.3
1970/71	35,419	51.7	1,593	1.3
1971/72	16,541	21.3	2,016	1.7
1972/73	12,758	20.3	2,457	1.9
1973/74	14,885	20.7	1,871	1.5
1974/75	28,859	30.6	1,976	1.5
1975/76	47,163	41.2	2,289	1.6
1976/77	32,671	35.4	1,926	1.3
1977/78	62,200	45.3	2,472	1.6
1978/79	85,471	42.0	2,833	1.5
1979/80	56,396	32.4	2,664	1.3

Source: (32) and (31).

In contrast to education, recurrent account expenditures on agriculture were modest, while the development account devoted a large part of its resources to agriculture. For transport, the priority was to develop Malawi's infrastructure. The low level of revenue account spending throughout the period reveals the prior lack of emphasis on a transportation network. The consistently high development account expenditures in this area, averaging 30 percent for the entire period, provide ample evidence of the government's recent priority in transportation. Development of an improved network of health care facilities was a relatively low priority. Health did not receive much emphasis in either account. As a low-priority item, maintenance, rather than development of health care has been the focus of limited government attention.

Expenditures on Education and Health Care

To better understand the impact of expenditure patterns on the distribution of income, we take a closer look at health and education.

Education

The patterns of expenditures on education and health strongly suggest that the benefits of these expenditures were markedly skewed toward upper income groups. Referring again to tables 26 and 27, we see that the broad emphasis on health care and primary education was to maintain rather than to expand

Table 29--Primary and secondary school enrollment statistics for selected African countries, 1960 and 1977

Country	Number enrolled in primary school as a percentage of age group						Number enrolled in secondary school as a percentage of age group	
	Total		Male		Female			
	1960	1977	1960	1977	1960	1977	1960	1977
	Percent							
Malawi	63	62	81	75	45	50	1	4
Tanzania	25	70	33	79	18	60	2	3
Uganda	49	53	65	63	32	44	3	7
Kenya	47	104	64	110	30	98	2	17
Zambia	42	95	51	104	34	87	2	16
Senegal	27	47	36	57	17	37	3	11
Zimbabwe	96	98	107	106	86	90	6	9
Ghana	38	74	52	84	25	64	5	29
Ivory Coast	46	92	68	115	24	69	2	17
Burundi	18	23	27	28	9	18	1	3
Low-income country average	54	77	72	90	37	64	14	24

Source: (64).

services. Table 29 shows that in 1960, with regard to the provision of primary education, Malawi was a leader compared with other African colonial territories. However, the erosion of attendance levels for primary schools relative to other countries is clear. World Bank figures for 1977 indicate that attendance levels have not changed significantly since 1960 (63, p. 72). These figures are the most optimistic ones. Morton claims that primary school attendance actually decreased in absolute and relative terms between 1964 and 1973 (50, p. 44), providing a figure of 33 percent of the school age population for primary school attendance in 1973 (Morton does not cite a source). Heyneman presents figures for primary school attendance for different years, but which tend to support Morton's claim that attendance decreased during the 1960's (63, p. 67). Heyneman's figures, though based on official education statistics, show a fairly rapid increase in the absolute levels of primary school enrollment in the 1970's.

The 1977 census data suggest that official educational statistics are optimistic with respect to primary school enrollment (39). While the age group categories used by the census are such that the figures are not strictly comparable, the data are still strongly suggestive. In 1977, there were 1.4 million children 5-14 years old in Malawi. Of this number, 34.5 percent claimed to have attended primary school. Of the 1.9 million children 5-19 years old, 43 percent claimed to have attended primary school. The percentage of people 5-24 years old who have attended primary school is 49.7 percent. For the entire population, 45.1 percent have attended primary school at some time and 6.4 percent have completed primary school. Thus, if we define the primary school age as 5-19 years old, relative enrollments have decreased. This must be the case since (1977) relative enrollments were less than the percentage of the people nationwide over 19 years old who have attended school.

Education received little attention within the development budget. Table 30 shows the allocation of funds among five educator categories in the development account. Over 1968-80, primary education accounted for only 8.4 percent of the total. Further, almost all of this was spent on urban and special facilities. Great emphasis was given to secondary schools in the 1960's; between 1964 and 1970, secondary school enrollment expanded by 84 percent to 11,000 students. However, during the 1970's, emphasis was shifted to higher education. By 1978, 1,300 students were enrolled in the university system. A 1978 estimate of recurrent costs at Chancellor College (the system's main component) was K2,600 per student, with a student/faculty ratio of 6 to 1. Comparable figures for the United States for 1979 were K3,800 per student and student/faculty ratio of 20 to 1.

Distributional Consequences of Expenditures on Education

The consequences of government expenditures on education for income distribution are based on who attends school and, thus, who receives the direct benefits. In the absence of suitable data, we limit the focus to who is likely to attend school. 40/ We discuss some of the factors which influence the decision to attend school at different levels.

40/ Heyneman conducted a cross-sectional analysis of tracer study data (the study being conducted by the Ministry of Labor since 1976) and obtained inconclusive results with respect to the relationship between family background and secondary schooling (63, p. 82).

Table 30--Development account expenditures on education in Malawi (1980 prices)

Category	1968-1971/72		1972/73-75/76		1976/77-1979/80		1968-79/80	
	Amount	Share of total	Amount	Share of total	Amount	Share of total	Amount	Share of total
	K1,000	Percent	K1,000	Percent	K1,000	Percent	K1,000	Percent
Primary school	2,249	9.2	1,240	10.4	1,887	6.7	5,376	8.4
Secondary school	15,270	62.9	1,007	8.5	2,545	9.0	18,822	29.3
Technical/ vocational	312	1.3	392	3.3	188	.7	892	1.4
University of Malawi	4,464	18.4	6,414	54.1	19,078	67.6	29,956	46.6
Other	1,987	8.2	2,826	23.8	4,057	14.4	8,870	13.8
Total	24,285		11,857		28,187		64,329	

Notes: Kenya, Senegal, Ghana, and Ivory Coast are classified by the World Bank as "middle-income" countries. All others in the table are classified as "low-income" countries. The "low-income" country average is based on the results for all such countries, not just African countries in the group.

Source: (31).

We argue that decisions by family units about the economic viability of a child's education are based on their perception of the costs and benefits of education. In Malawi, the cost of an education, apart from the opportunity costs, was a minimum of K3.50/year for Standards 1-5, K6.50/year from Standards 6-8, and K52.50/year for secondary school. Although these fees appear modest, they must be viewed in light of low per-capita income levels. In this context, they represent a substantial proportion of average household income. The subsidy to the student increased markedly as the level of education increased. 41/ The explicit returns to investment in education are unlikely to vary substantially among households. Consequently, the net expected rate of return (taking into consideration the degree of risk of the investment) to education is broadly the same for most Malawian households. The determining factor in deciding which students attend school, therefore, is their ability to pay the school fees. The relatively wealthier households are in the best position to take advantage of government education subsidies. 42/ The size of the subsidy and the explicit returns increase sharply at two points: entry into secondary school and into the university. Thus, families able to afford 8 years and then an additional 4 years of education costs are in the best position to collect the increasing government subsidies. The wealthiest households receive the greatest subsidy. Government policy has been to focus investment in education on secondary and higher education, with emphasis on the latter. The consequences of this education investment policy, along with the fee policy, means that the benefits of investment tend to accrue to the wealthier households and therefore worsen the level of equity of income distribution.

Given the condition of secondary and higher education facilities at independence, development of these areas was essential. This expansion probably could not have been carried out without fostering some inequity in distribution, but the degree of inequity that resulted seems to have been greater than needed. Two steps, for example, could have lessened the deterioration in equity. First, the system of school fees could be more equitable; for example, by providing more scholarships for the poor or simply abolishing fees for primary education. Second, the structure of compensation in Malawi continues to reflect colonial salary differentials and therefore the returns to higher levels of education are exaggerated. Salary schedules for middle-level and senior posts have been higher than necessary to attract qualified personnel.

41/ For example, the recurrent cost of educating a secondary school student was K278; for Chancellor College, the cost was K2,580/student. Further, secondary school students must pay fees, while university students pay no fees and actually receive a monthly stipend. Comparable figures for primary schools are not available. However, an insight into the cost of providing primary school services is provided by Heyneman (63, p. 74). He estimates, using survey data, that the value of physical facilities (furniture, books, and equipment) per student is K4.15. The marginal addition to this stock in 1979/80 was K0.99/student.

42/ Another dimension of the impact of family income differentials on educational success and thus the inequitable distribution of success in education is the supplementary teaching carried out in the homes of upper income families. Given the highly adverse staff/student ratios characteristic of primary education in many developing countries, the phenomenon of private tutors or family members tutoring children of upper income households is an important factor in the examination performance of a student. In Malawi, this factor has assumed increasing importance as the staff/student ratio in primary schools has worsened in recent years.

Health Care

Health care facilities in Malawi received even less attention than education. During stringent budgetary restraints of 1964-73, development account expenditures on health care were roughly 1 percent of the total. This expenditure did not allow for any significant expansion of facilities, as the Statement of Development Policies 1971-80 states:

> "Moreover, a large proportion of this expenditure (i.e., health development expenditure) was used not for development in the sense of expanding available health facilities, but for the repair and replacement of existing institutions." (46, p. 103)

Although the government has long recognized the efficiency of investment in preventive health care, it was unable to develop significant health care programs within the context of the health budget. This was because the government felt pressure to provide an acceptable standard of health care for the growing middle class, which meant funding curative services. The Statement of Development Policies, 1971-80 made this clear:

> "It should be stressed that there is no lack of appreciation that the best strategy to adopt in the war against disease is to take preventive action; but it is felt essential--for both humanitarian and political reasons--to maintain treatment facilities on at least their present level. The Malawi government's revenue position does not permit expenditure on both the minimum acceptable level of treatment as well as on major preventive schemes; it is for this reason only that preventive health must for the time being be given a low order of priority." (46, p. 5) (authors' emphasis).

The same document, discussing the pressures which led to the continuing emphasis on curative services, states that a major factor was:

> "The broad effects of education, which means that a higher proportion of the existing population now demand medical attention of a modern type each year." (46, p. 102).

The relaxation of budgetary pressures in the early 1970's permitted the government to embark on some improvements in preventive and curative care. Evidence of this is the improvement in the population per nursing person ratio (table 31). At the same time, there was some deterioration in the ratio of population per physician. Throughout the 1970's, there was rapid progress in providing prenatal and postnatal care to the rural population. 43/ However, most of the health developmental budget during this period was allocated to urban-based curative services, in particular, the hospital for the new capital.

The two health care output statistics, life expectancy at birth and the child death rate, used by the World Bank to measure changes in the quality of health care, show a significant improvement for Malawi (64, table 21). From 1960-78 estimated life expectancy at birth increased from 37 to 46 years, while over the same period the child death rate decreased from 41 deaths per thousand children per year aged 1-4 to 27 deaths per thousand. The quality of the data allows us only to say that the improvement of these statistics in Malawi was

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43/ In 1978, there were a total of 920 "under five" clinics of which 553 were operated by the government (23, table IV.7).

Table 31--Health statistics for selected African countries

Country	Population per-- Physician 1960	Physician 1977	Nursing person 1960	Nursing person 1977	Population with access to safe water (1975)
	Number				Percent
Malawi	42,400	48,200	12,920	3,890	33
Tanzania	21,020	15,450	10,440	2,760	39
Uganda	12,960	27,600	9,420	4,300	35
Kenya	10,560	11,950	2,230	1,120	17
Zambia	11,990	10,190	9,920	1,930	42
Senegal	22,380	15,700	NA	1,610	37
Zimbabwe	NA	7,110	7,110	1,390	NA
Ghana	12,160	9,930	5,430	840	35
Ivory Coast	23,280	15,220	2,920	2,370	19
Burundi	77,160	50,840	6,850	6,980	NA
Average	18,020	9,900	9,050	8,790	28

NA = Not available.

Source: (64, table 21).

broadly in line with that achieved by other comparable developing countries. At the same time, Malawi's life expectancy figures are below the mean for other low countries: 8 percent below for life expectancy at birth and 35 percent below for the child death rate.

Despite modest gains in life expectancy and nursing personnel per capita, the budget data demonstrate that the provision of health care services by the government has not been a tool of income redistribution. Only 2.2 percent of total development account expenditures were devoted to health care. (The 1980 value of annual per capita development account expenditure on health was 38 tambala or approximately 40 U.S. cents.) The colonial pattern of extreme inequity of access to health services has been largely unchanged. The emphasis on urban-based curative services reinforced the inequitable distribution of health care services, especially since access to these services is closely related to income. The improved life expectancy figures are probably largely due to the very modest program of primary and preventive health care in rural areas. When well conceived, such programs as measles inoculation exhibit remarkably high benefit/cost ratios. In this respect, our criticism of government activity in the provision of health care is twofold: the failure to devote significant financial resources to an area of great redistributive potential and the failure of government to invest significantly in an area of high returns.

Agricultural Development Policy

Since 1968, K189 million have been spent on agricultural development, of which 83 percent was financed by donor agencies (table 32). In almost all cases, the stated objective of these expenditures has been the development of peasant agriculture. Smallholder development policy since independence had three

Table 32--Development account expenditure on agriculture for 4-year periods (1980 prices)

Development account	1968-1971/72		1972/73-1975/76		1976/77-1979/80		1968-1979/80	
	Amount	Share of total	Amount	Share of total	Amount	Share of total	Amount	Share of total
	K1,000	Percent	K1,000	Percent	K1,000	Percent	K1,000	Percent
Specific crop development:								
Cotton	4,679	8.9	244	0.4	NS	NS	4,923	2.6
Rice	852	1.6	817	1.3	49	0.1	1,718	.9
Tea	530	1.0	615	1.0	1,932	2.0	2,537	1.3
Coffee	316	.6	291	.5	NS	NS	607	.3
Maize	694	1.3	100	.2	NS	NS	794	.4
Tobacco	707	1.3	1,076	1.7	154	.2	1,937	1.0
Minor crops	162	.3	NS	NS	NS	NS	162	NS
Integrated rural development program:								
Lilongwe Land Development Program	18,584	34.2	17,361	27.1	17,361	23.1	52,287	27.6
Shire Valley Project	4,479	8.2	10,440	16.3	13,122	18.6	28,041	14.8
Central Region Lakeshore Project	3,657	6.7	4,514	7.1	7,585	10.7	15,756	8.3
Karonga-Chitipa	NS	NS	9,624	15.0	7,696	10.9	17,320	9.2
National Rural Development Program	NS	NS	NS	NS	17,367	24.6	17,367	9.2
Other	63	.1	1,217	1.9	408	.6	1,688	.9
Other categories:								
Research training, and extension	3,514	6.5	2,426	3.8	1,513	2.1	7,453	3.9
Settlement schemes	1,790	3.3	1,503	2.3	516	.7	3,809	2.0
Irrigation	2,533	4.7	NS	NS	804	1.1	3,337	1.8
General	11,846	21.8	13,756	21.5	3,758	5.3	29,369	15.5
	54,407		63,991		70,706		189,104	

Notes: Estimates have been calculated from revised estimates presented to Parliament at the end of the relevant financial year. As these estimates are tabulated prior to the end of the financial year, they may differ from actual expenditure. Development account expenditure is principally capital expenditure.

NS = Not significant.

Source: (31).

phases: 1964-76, the immediate post-independence phase; 1968-77, the large integrated rural development project phase; and 1978 to present, the National Rural Development Program (NRDP) phase.

The Immediate Post-Independence Phase

The early years after independence were characterized by a scarcity of development resources and a continuity of policy with the terminal colonial period. As far as the peasants were concerned, this policy was one of containment rather than development. The colonial authorities had forced conservation measures such as ridging upon peasants out of a fear that a decline in the viability of peasant farming could threaten the structure of the colonial economy.

These conservation measures formed an important focus for African opposition to colonial rule and, as a consequence, the agricultural extension service emerged discredited from the political struggles of the later 1950's. Another aspect of the activity of the colonial extension service was its assistance to peasant cash croppers (the growers of tobacco, cotton, rice, and coffee). This positive side to the work of the extension service inevitably meant concentrating efforts on the wealthier peasant household. This large farmer bias was reinforced by the introduction of the Master Farmer Scheme. Once the British conceded independence, a major aim of the new African government was the rehabilitation of the extension service. This was attempted through the use of an energetic political campaign in favor of improved farming methods, based on persuasion rather than coercion. However, it is doubtful whether this activity succeeded in correcting the bias of the extension service toward the richer peasant farmer.

There were at least four factors tending to concentrate extension service attention on farmers with higher incomes. First, the extension service had little to offer the non-cash-cropping peasant except a general condemnation of their agricultural practices, such as intercropping. 44/ Second, the extension service had useful advice for growers of tobacco and cotton. Production methods for both of these crops changed significantly with greater use of fertilizer in the case of tobacco and of insecticide combined with new, locally developed plant varieties in the case of cotton. Third, the extension service operated a fairly small credit scheme for current inputs such as fertilizer and medium-term inputs such as oxen. Poorer peasants were unable to satisfy the eligibility criteria for loans and thus had no incentive to join in extension-promoted activities, such as farmers' clubs, in order to gain the confidence of the extension service prior to a loan application. Fourth, most of the initiatives launched in this period were aimed at wealthier peasants. Among these were programs to promote the use of oxen,

44/ In Malawi, the extension services continue to favor pure-stand agriculture (land planted to one crop at any given time) in preference to indigenous agricultural techniques which are based on intercropping (where a number of plants are grown together in the same field and may be planted and harvested at different dates). In a review of intercropping methods, Belshaw concludes that intercropping remains appropriate for many circumstances in modern labor-intensive agriculture (4). In recent years, the Malawian Department of Agricultural Research has initiated investigation into indigenous agricultural techniques with the objective of improving rather than discarding valuable methods. This program also investigated another of the varieties of the colonial and post-colonial extension service, namely the extreme importance of ridging.

smallholder tea and dairy projects, and settlement schemes. The latter, based on both irrigated and dry land agriculture, had the objective of raising the incomes of relatively small numbers of households to well above average levels.

In the immediate post-independence period, the trends in peasant-marketed surpluses were mixed (21, app. IX). Maize and groundnut surpluses showed a strong upward trend, but cotton and rice production remained at, or below, levels experienced earlier in the decade. The increases in production which did occur were generally provided by a relatively small group of wealthier peasants. Thus, this development, reinforced by the agricultural policies first described, was likely to have led to increased income differentialswithin the peasant sector. However, the movement of the internal terms of trade against the peasant sector, which occurred throughout the 1970's, overshadowed these events and further inhibited processes of income differentiation within the peasant sector.

The Large Integrated Rural Development Phase

From the late 1960's, the World Bank began to give greater priority to agriculture in its lending program. From the early 1970's, this greater priority was combined with an emphasis on poverty-focused approaches to agricultural development. The World Bank's interest in poverty-focused development implied that it would put its resources behind programs which it believed would prove effective in raising the living standards of poorer rural people. A planning concept which was fashionable as part of this approach to poverty-oriented development was the integrated rural development project. A World Bank review of the rationale for integrated rural development programs (IRDP) in which Malawi was specifically in mind is found in Lele:

> "...to make a noticeable impact in a short period and to deal with the complementarities in production and to some extent in consumption, substantial simultaneous investment was deemed necessary in a number of activities, including agricultural extension, credit, marketing, roads, soil conservation, training, co-operative development and water supply." (26, p. 127)

The Lilongwe Land Development Program (LLDP), launched in 1968, was the first IRDP supported by the World Bank. Following LLDP, three other IRDPs were implemented in Malawi: the Lower Shire Valley Project, the Karonga Project, and the Central Region Lakeshore Project. The first two were financed by the World Bank and the last by West Germany.

Table 32 summarizes of the costs of these projects. The integrated projects were expensive, costing a total of K132.5 million (in 1980 prices) and accounting for 70 percent of the total agricultural development budget since 1968. The LLDP was particularly expensive, accounting for 28 percent of the total agricultural development budget since 1968. By 1978, however, its operation covered an area inhabited by an estimated 104,000 households, only about 7 percent of all rural households. 45/ Thus, the IRDP phase was characterized by sharp inequities between regions in agricultural development expenditures. Apart from the Lower Shire Valley, these programs were focused in areas of high agricultural potential, generally characterized by relatively

45/ This estimate is obtained by dividing LLDP's estimated farm population of 103,608 households as of 1977-78 (39, p. 77) by Kydd and Christiansen's estimate of rural households of 1,575,000 (22, table 2).

high peasant incomes. For example, the LLDP absorbed 28 percent of agricultural development funds (see table 32) and was sited in an area which probably already exhibited the most commercialized peasant agriculture and highest peasant agricultural incomes in Malawi.

In all the integrated projects, the two most important categories of expenditure were infrastructure and extension and training. Expenditure on extension greatly increased the density of extension workers compared with either the preproject position or the numbers in nonproject areas. Credit programs have been important expenditure categories linked to extension. Lack of working capital was viewed as a major factor constraining the adoption by peasants of the technical changes being promoted by the extension services. Thus, extension workers urged peasants to take up production packages on credit; these normally consist of a combination of inputs; for example, hybrid maize seed and optimum fertilizer applications.

We found that no major crop production targets were achieved (21, ch. V). Statements concerning equity effects are more difficult to make, largely because there has been no effort in project planning or evaluation to identify the poorer households and their associated characteristics. Thus, the figures reported for yields, marketed surpluses, packages adopted, and so forth give little direct insight into the effectiveness of the projects in alleviating poverty within the sector. There are examples of project activities which benefited poorer, as well as wealthier, peasant households. But, the integrated projects were unable to significantly improve the welfare level of smallholder farmers even within their limited areas of operation (covering only about 20 percent of the rural population).

A key problem with the integrated projects was the unattractiveness of the types of technical change that were promoted. The unattractiveness of officially sponsored technology to most peasants resulted from at least three factors. First, the technology was developed without the benefit of serious research into peasant farming systems and economic problems. Thus, not only were production packages not tailored specifically to the needs of peasants, but they were sometimes irrelevant to their requirements. Second, most technology packages were based on relatively high inputs of fertilizer and other agricultural chemicals, the prices of which were linked to petroleum prices. Thus, a technology that offered major gains at the planning stage, in the late 1960's, looked less attractive after the oil price increases of 1973/74. Third, government policy was to depress peasant producer prices relative to export parity prices. This has further reduced the viability of government-promoted technology. 46/

46/ An example of how low producer prices inhibit the uptake of modern inputs is provided by the case of cotton. The government has been attempting to raise higher cotton yields by promoting adoption of a pest control technology that is undoubtedly technically effective. There is a significant positive (although diminishing) physical yield for up to 10 applications per season; 10 applications is the extension recommendation. However, peasants never perform more than six applications per season and the average application rate is about twice per season. This is because, after the first or second application, returns to further applications diminish. Thus, the farmer discovers that the value of the additional cotton output does not justify the labor and chemical costs of further applications. If cotton prices increased, the value of the additional yield resulting from further insecticide applications would also increase and thus farmers would find it worthwhile to apply more insecticide.

We conclude this discussion of the large integrated project phase with some comments on two contrasting projects, the LLDP and the Lower Shire Valley Project (LSV). The LLDP has probably been one of the more successful of the large projects, while the Shire Valley Project among the more disappointing. The LLDP was sited in an area with a long history of peasant cash crop farming: the center for the dark-fired tobacco industry. Three further advantages were enjoyed by LLDP; relatively high-potential land, relatively low land pressures, and the expanding new national capital at Lilongwe, which provided a nearby food market. Although often represented as a bold initiative, in some of its features, the LLDP represented what the Colonial Agricultural Service wished to have carried out if the resources had been available. For example, the colonial government stated its desire to move to individual land tenure in 1955, but had been unable to make headway with this policy due to a lack of funds and to peasant opposition to the activities of the Department of Agriculture. The land allocation component of the LLDP was the first major attempt in Malawi to implement a policy of individual land tenure. What perhaps represented a break from colonial ideas was the crop production component of the plan. This component aimed to bring about rapid increases in the productivity of food crop production (via high-yielding varieties and fertilizers) in order to release resources of land and labor for cash crops. Groundnuts was the main cash crop envisaged for the majority of households in Lilongwe.

Over its 12 years of operation, the LLDP has failed to meet production targets, and several important trends were headed in a direction contrary to original project objectives. 47/ The strategy of stabilizing food crop acreage through rapid increases in productivity was rendered nonviable by the increase in domestic food prices relative to groundnuts and tobacco. Over 1970/71-1976/77, the maize acreage expanded rapidly as peasants reverted to traditional agricultural technology. In 1970/71, 34.6 percent of the maize acreage was estimated to be planted to high-yielding varieties; by 1976/77 this figure had fallen to 3.5 percent. This substitution of peasant resources into maize production had a strongly negative impact on the production of groundnuts. In fact, the declining trend in Lilongwe groundnut production began in 1968, the year in which the project was implemented, while the trend for the rest of the central region continued upward for another 6 years.

In recent years, increased tobacco output has been cited as an achievement of the project. However, there is no clear distinction between tobacco output trends in Lilongwe and those in the nonproject areas of the central region. This suggests that incremental tobacco output was not strongly related to project activity. Although these brief comments hardly do justice to the complex issues raised in evaluating a large project with multiple objectives, they do serve to make clear that any successes achieved have been modest.

In contrast to the LLDP, the Lower Shire Valley Project (LSV) was located in an area with more intractable development problems. Much of the project lies in areas with elevations between 75 and 300 meters above sea level; hence these areas have very high ambient temperatures. Rainfall is low and variable with droughts sufficient to bring almost total crop failure every 4-5 years. When the human population was smaller, the LSV was generally able to provide its inhabitants with adequate livelihoods. Settlement concentrated near the

47/ By 1977, incremental production as a percent of planned output was estimated at 41 percent for maize, 31 percent for groundnuts, and 18 percent for tobacco (20).

river permitted both abundant fishing and seasonal flooding, as well as double cropping of some land. However, with growing population, settlement had to expand away from the Shire River. In the 1950's, the government facilitated this movement by drilling boreholes and encouraging cotton growing. Cotton production in the LSV expanded rapidly in the 1950's. Since the terms of trade between cotton and food were favorable, peasant farming systems developed whereby the proceeds from cotton sales financed food purchases. 48/ This happened because cotton yields were less sensitive to poor rainfall than were yields for the foodgrain crops. Cotton was grown using land-intensive methods with low yields. From the 1960's, however, the cotton/food terms of trade began to deteriorate, a trend that continued to beyond 1980. This trend threatened the viability of the cotton-based farming systems which had developed away from the Shire River. To maintain an adequate food supply from agriculture, peasants had either to increase their cotton output or attempt to grow more food in the semiarid conditions of the LSV. Both options presented difficulties. For a significant number of LSV households, these circumstances led to a deteriorating standard of living.

The LSV project evolved from an earlier cotton development project. Its principal objectives were to increase cotton production and improve food crop yields. Two other important components of the project were aimed at raising productivity in animal husbandry and fishing. Attempts to increase cotton production were based on infrastructure development and promotion of pesticide use. Pesticide use was encouraged by a credit program for sprayers and chemicals and by a relatively high density of extension workers. However, LSV cotton production ceased to increase 3 years after establishment of the project. Production continued to increase, however, in other parts of the country, including the nonproject areas of the upper Shire and Bwanje Valleys. The difference in performance between LSV cotton production and that in the rest of Malawi is partly explained in terms of the role played by cotton in the farming systems of the areas. Favorable cotton/food terms of trade and the semiarid climate encouraged LSV farmers to specialize in cotton. In other parts of the country, better rainfall made it worthwhile to allocate more resources to food production. Hence, cotton played a less important role in these farming systems. Thus, while the returns to all cotton farmers in Malawi were squeezed by the increase in pesticide prices relative to producer prices, LSV farmers were particularly vulnerable to the adverse movement of the cotton/food terms of trade.

Poorer farmers were likely most severely affected by these price developments and tended to abandon cotton growing. Some of the wealthier households (those with access to a nonfarm income or who owned assets such as fishing nets or cattle) were able to accept the risks implied in purchasing insecticide and therefore able to survive the drought years with resources sufficient to allow them to plant cotton in the following season. 49/ Furthermore, withdrawal of poorer farmers from cotton production on their own land was of some assistance to those who were able to continue to grow the crop, as this was another

48/ This does not imply complete specialization in cotton. Households also planted maize, sorghum, millet, etc., but did not expect their own production to cover their food requirements except in above-average years.

49/ Poorer LSV peasants are likely to be very short of food toward the end of drought years and thus must seek wage employment as early in the new season as it becomes available. As these people are often in a physically weakened condition, it is extremely difficult for them to prepare their own land for cotton in addition to working on other peasants' land.

factor in reducing the real cost of labor. All of this resulted in cotton growing becoming more concentrated in the LSV.

The efforts of the LSV project to strengthen food production were unsuccessful due to a mismatch between the technology being promoted and the needs of the people. This problem was recognized by the World Bank after two 4-year phases of the project; therefore, the third 4-year phase included a substantial agricultural research component. As lead times are fairly long in the trial, selection, and breeding of plant varieties, this research has yet to make an impact on food crop production in the semiarid areas of the LSV. 50/

The National Rural Development Program

Total expenditures on the IRDP phase (1968-77), were K99.7 million in 1980 prices. 51/ Since the total project area was estimated to cover a fifth of the rural population, the total roughly represents an average expenditure of K317 per household in the areas affected. At the same time, government agricultural services in nonproject areas remained broadly as they were in 1964-67, a thin coverage of extension workers who were dealing mainly with richer peasants. By the later 1970's, neither donor nor local resources were sufficient to fund many further projects on the scale of the existing large projects. Therefore, a less costly model was necessary to enable the rapid extension of integrated rural development to the rest of the country. Out of a series of negotiations between the Malawi Ministry of Agriculture and donor organizations (principally the World Bank), a plan was developed entitled the National Rural Development Program (NRDP). The NRDP was, essentially, a plan to implement a number of smaller integrated rural development projects at a rate, it was hoped, of three new projects per year commencing in 1978. It was envisaged that 40 NRDP projects would be implemented by the end of the century (28, p. 2). In the design of these smaller NRDP projects, some thought was given to the disappointing results of the large projects. At the planning stage of the large projects, it had been assumed that enhanced rural incomes resulting from greatly increased crop production would permit the government to recoup some portion of the project costs through taxation. By the mid-1970's, however, planners in Lilongwe and Washington were less sanguine about the impact of integrated projects on peasant production. Therefore, in the words of the planning document outlining the NRDP strategy:

> "...the government has decided that a strategy will be adopted whereby priority will be given to investments with an immediate impact on agriculture, while other investments which are either relatively more costly, or have a less direct impact on production, will be implemented in the more distant future." (28, p. 2).

In practice, this meant that project components such as health and education were deemphasized. The important components of more recent NRDP projects were thus infrastructure, extension, and credit, with infrastructure typically accounting for much of spending in the first 5-year phase. The road networks

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50/ The third phase, 1976/77-1979/80, is rather ironically described as the consolidation phase. Thus the project title was changed from the Shire Valley Agricultural Development Project to the Shire Valley Agricultural Consolidation Project. The project is now known as the Ngabu Agricultural Development Division of NRDP.

51/ Calculated from (21, appendix V).

constructed under NRDP are less extensive than in the IRDP's, but are, nevertheless, designed to bring most households within several miles of an all-weather road.

An important issue is whether NRDP is likely to prove more successful than the earlier large projects in achieving the objectives of increasing cash crop production and raising the incomes of poorer rural people. NRDP does not represent a radical departure from the concept of earlier projects. It is thus difficult to imagine that the result will be very different. Technology and price incentives seem to have received sufficient recognition.

Although our discussion of agricultural projects has been brief and confined to two projects, results of other projects fall in a continuum with the LLDP at one end and the LSV project at the other. Consequently, we argue that the rural development programs have not significantly increased the income levels of the broad group of people originally targeted. The principal beneficiaries within Malawi were the incumbents of the bureaucratic posts created in project administration. As a result of access to highly subsidized inputs, including livestock, tools, and irrigated rice paddy fields, small groups of upper income peasants have benefited from the programs. Some larger groups of peasants may have gained from temporary employment in project-associated public works. However, in light of the expenditures for these projects, these gains are hardly significant.

CONCLUSIONS

The interaction between patterns of economic growth and the resulting trends in income distribution remains an important issue in the development literature. In the case of African countries, little is known about changes in distributional patterns as development plans are implemented, because of data limitations. The primary focus of this report was to overcome these limitations: 1) estimate recent trends in distributional equity and 2) gain an understanding of the behavior of the factors that influence income distribution. Since the available data on income flows was (and remains) weak, we found it necessary to consider both direct and indirect evidence. The direct evidence consisted of data on employment, income flows, household structure, and so on. Different sources of data were used for each of the two time periods analyzed. The indirect evidence was comprised of an analysis of the structural change in the post-independence economy and the expenditure levels and efficiency in areas that could affect distributional equity.

Both types of evidence indicate that distributional equity declined between 1968/69 and 1977. The direct evidence shows that the Gini coefficient rose from 0.491 to 0.53. Since the methodologies and data used to evaluate distribution for the 2 years were different, the direct evidence would not support a strong conclusion about the erosion of distributional equity. However, when the direct evidence is considered in conjunction with the indirect evidence, a more persuasive picture emerges. On the basis of these two types of evidence, we conclude that distributional equity decreased in Malawi between 1968/69 and 1977.

Finally, although we believe that the erosion in distributional equity can be attributed largely to the nature of the development strategy that was pursued, this distributional outcome need not be inevitable. Government policy in the areas of education, health care, and rural development had the potential to offset much of the increased inequity.

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APPENDIX

Migration historically has been an important social and economic force in Malawi. International migration, largely to South Africa and Zimbabwe, became significant in the early years of this century and in the past 50 years, and migrants' remittances were an important source of income in rural areas. These remittances have also made an important contribution to government revenue and foreign exchanges. By the 1970's, it was possible to establish two categories of migrants remitting funds to Malawi. First, individual workers on short-term contracts with recruitment agencies such as TEBA (WENELA), the Malawi Ministry of Labor (Employment Services Division), and the Rhodesian African Labor Supply Commission. TEBA, the largest of these organizations, recruits exclusively for South African mines. Under an agreement with the Malawian government, workers have a fixed part of their pay remitted to banks in Malawi under a deferred payment scheme. Using available data on this scheme, it was possible to estimate the size of per capita remittances by these miners (37, tables 7.6, 7.7). These figures are presented in app. table 1.

The problem encountered in estimating per capita remittances was that while figures exist for the number of miners employed and total mine remittances paid, we do not know the length of the lag between a miner's termination of employment and receipt of his deferred payment. We believe that this lag was at least several months. International migration by Malawians declined

Appendix table 1--International and domestic remittances

Annual remittances	International		Domestic	
	Remitters	Mean value of remittances	Remitters 3/	Mean value of remittances
	Number	Kwacha	Number	Kwacha
K0-49	30,900 1/	30.	110,000	25.
K50-149	45,000 2/	72.	12,200	75.
K150+	1,300	280.	0	0

1/ Estimated number of Zimbabwe residents with Malawi affiliation.

2/ Of this number, 19,500 are assumed to be employed in South Africa in nonmining activities, but still officially recruited. Their mean remittance is judged to be K100. The remaining 25,500 were not officially recruited, but can be thought of as long-term South African and Zimbabwe residents with Malawi affiliations, with a mean remittance of K50.

3/ The total of domestic-based remitters is assumed to be equal to the number of single-male households. These income figures have been introduced into the income distribution model by assigning an income to a number of female-headed households. These households are represented as the three rural groups of 1.2/dw/w and the urban group dw/w. The three groups of rural women correspond to the three levels of remittances shown in the above table. For single-male migrants, international and domestic, we have assumed their remittances to be primary redistribution. We have not been able to deal with secondary redistribution, although we recognize that this is an important force in the economy.

Source: (37, tables 7.6, 7.7).

dramatically in the 1970's. Reasons for this decline include: reduced employment opportunities for Malawians in Zambia, the war for independence in Zimbabwe, and changes in the employment policies of South Africa toward employing more "local Africans," coupled with restrictions imposed by the Malawi government on recruitment within Malawi. The 1977 census shows that the large-scale returns of migrants to Malawi began in 1973 (39, table IV.11). This was accelerated by the Malawi government's banning of mine recruitment in 1974. This prohibition on recruitment reduced the number of Malawian contract employees in the South African mines from a high of 123,000 in 1973 to zero in 1976. Limited recruitment was permitted in 1977 at a level of 18,000 miners per year. A further important factor in assessing the consequences of changes in South African mine employment for Malawians was the dramatic increase in real wages paid to African miners in the 1970's. The effect of these changes can be considered in three periods: (1) for 1970-73, the average annual number of miners was 109,400 with per capita remittances of approximately K110 per annum, (2) for 1974-76, average annual employment was 23,700 with average per capita remittances of K410, and (3) for 1977-79, average employment was about 19,000 and per capita remittances averaged K900 (37, tables 7.6, 7.7, 16.3). For a more detailed account of the impact of return migration to Malawi, see (8).

The second category of remitters are "noncontract" male migrants living with their families in Zimbabwe and South Africa about which we know very little. Using 1977 census data, we have estimated the number of these remitting migrants to be approximately 75,900 (39 table IV.91). These groups, along with domestic migrants, are presented in appendix table 1.

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